

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1093.—Vol. XXVI.]

LONDON, SATURDAY, AUGUST 2, 1856.

[GRATIS.]

Meetings of Public Companies.

MEXICAN AND SOUTH AMERICAN COMPANY.

The annual meeting of proprietors was held at the London Tavern, Bishopsgate, Monday, and was very numerously attended.—Mr. J. D. POWLES in the chair. Mr. CLARKE (the secretary) read the notice convening the meeting, and the minutes, from which we condense the following:—

The directors have now to present to the proprietors a report of the company's progress during the past year, which has been to them one of great care and harassment in the management of the company's affairs. The directors have been very busy in making an entire change in the management of the company's affairs in Chili, by the removal from the superintendence thereof of Mr. Allison. Speaking of this gentleman's conduct and proceedings, the directors necessarily in his absence, they will endeavour carefully to avoid doing more than giving an account of his proceedings, and of the impression produced thereby on their minds. Previous to their entertaining any idea touching the change that was made to take place in the management of the company's affairs in Chili, the directors came to the determination to appoint an assistant superintendent to accompany Mr. Allison. Their motives for it were numerous, but it will here suffice to notice two. That the interests of the company had attained that magnitude in Chili as to be inexpedient, for proper safety, to have a representative on the spot, ready to charge, in case of death, absence, or any other casualty that might happen to Allison.

That they had found great want of accuracy and precision, calling for an immediate remedy, in all the accounts and estimates that were rendered to the board from Mr. Allison, as they did, that so often as the explanations were asked the questions were evaded, or short data given—so much so, that the directors had naturally come to the conclusion that (supposing a loyalty of purpose and intention) great irregularity and deficiency of system must have prevailed there. Accordingly, the directors made an engagement with Mr. Philip Edward Barnes to proceed to Chili as assistant superintendent, for which purpose he qualified himself by passing several months at the copper smelting-works in Wales, to which the directors were allowed access where he made himself acquainted with all the details of the smelting process; in London he went through the whole of the correspondence connected with the company's affairs, and those accounts and estimates which required his attention, so that he might arrive in Chili with a full knowledge of all antecedent circumstances connected with the company's affairs, and also with knowledge of the manner in which the business of smelting ore is carried on in England, and the returns, &c., &c. Mr. Barnes, being thus qualified, left England for Chili by the packet of the middle of October; but, previously to dispatching him from England, events had occurred which rendered it necessary for the directors to appoint him superintendent, and to put an end to their agreement with Mr. Allison.

The ground of dissatisfaction which had arisen in the minds of the directors towards Mr. Allison arose from the circumstance of their having perceived that he was settling business on his own account, in the purchasing and shipping of ores for parties on commission, to a considerable extent. This business was carried on by the company's establishments, with its chemists, samplers, officers, and men, with the wharves and yards, and the convenience of the company's bankers as well, it had been the business of the company; but the commissions and emoluments not credited to the company, but received by himself, though latterly directed to be remitted to the company, with one, and occasionally two, of the officers of the company. The board, therefore, addressed to Mr. Allison on June 1, last year, a letter, of which the following is a copy:—

"In the course of examining the accounts for 1854, the attention of the board was drawn to time, been called to entries representing commissions paid to yourself and other officers of the company, a list whereof, as extracted from your books, is annexed, amounting to \$7792 2. These entries have taken the board much by surprise, and their duty to the company compels them at once to say that they cannot in any manner sanction these payments, and to request that the amount of them, or other that may have been made on the like account, be paid to the company. The board considers that nothing can be more objectionable, on principle, than for parties engaged in the service of the company abroad to be deriving profits from their own business. The board have never sanctioned it in any way, and it is in direct variance with the conditions of your own engagement with the company, which extends alike to every agreement with every other person in the company's employment. Even if it were not precluded by express agreement, it is the clearest principle of equity. The company engaged the whole of the services of the parties in their employment, and no person so engaged has the right to abstract any portion of those services from the company for his own benefit. The company's position at Herradura gives facilities for carrying on the business of buying ore and copper on commission the board can easily believe, and that company should profit by the opportunity of earning such commission, as an advantage incident to its position, is just and proper; but that such profit should go to the hands of the company's employees the board cannot admit to be just, on any account that can be suggested. It might be fairly urged on your part, as superintendent, that as this was a new and unexpected branch of business that had offered itself, and as it devolved additional labour and responsibility on you, it would be reasonable to make you an additional remuneration out of it. But the constitution of agreement with the company provides for this beforehand, as no profit can be by the company from any source without your participating therein. In like manner, if this business imposed any increase of labour upon your establishment, might indeed furnish a motive for increasing its strength, but none for invading the principles of any of the agreements; but that there has been no such deficiency of labour in the official department, proved by the business having been actually carried on by the company's servants, without any inconvenient pressure being felt from the board cannot but express a deep sense of disappointment and regret that the transactions should have taken place, without any previous communication or intimation thereof with the board. That these commissions have been earned at the expense of the company's position, giving the opportunity to you, as superintendent of the company, to make the purchases in question. The board is convinced that you will, on due reflection, see that there is no ground on which any appropriation can be sustained, and that you will rectify the same at once. It is likewise deemed it necessary to request you to furnish them with a statement of the commissions earned, distinguishing those antecedent to December, 1855, and those subsequent to that date.—J. D. POWLES, Chairman.

Mr. Allison replied by entirely refusing to refund the commissions which were so appropriated.

The directors, on the receipt of this reply, took advice from eminent counsel as to the course they were entitled to pursue towards Mr. Allison, who stated, without reserve, that Mr. Allison had committed an entire breach of his agreement, such as justified the directors in giving him immediate notice of its termination, but that if it were their intention to act upon it, it was necessary that they should give him his discharge at once. Other grounds of dissatisfaction had besides arisen in the minds of the directors as regards Mr. Allison. It had been the practice of Mr. Allison, at the close of each year, to transmit to the board a report, which professed to give a minute and full detail of his proceedings, and which was accompanied by an analysis of the average cost of copper from the ores, and the charges of working, and which was each yearly meeting declared dividends accordingly. The directors, however, having discovered several discrepancies in these accounts, directed to place the whole of them, to December 31, 1855, in the hands of an accountants for investigation and report. This investigation proved to be of so much labour and complication that the report was not delivered to the board until the beginning of last year. This report set forth many discrepancies in the accounts, and, in particular, proved—first, that the cost of copper had been understated; and, secondly, that the quantity of copper which had been produced from the ore purchased had not been realised, and, thirdly, that there had been a greater loss sustained in the manufacture, by slags, than had been represented; and, thirdly, that the consumption of coal had been more than it had been stated at. A copy of the accountants' voluminous report on these matters was forwarded to Mr. Allison on May 16 last year, with a request that he would reply to the several matters contained therein; but, instead of satisfying the enquiry, he has found it more convenient to assume a tone of offence and refusal, for which not the slightest cause was given, with a view, it would seem, to the subject from its course, and to stifle the enquiry altogether. In this state, does the matter still rest.

Other grounds for dissatisfaction which had arisen in the directors' minds were, the erroneous statements gratuitously made by Mr. Allison as to the loss of copper in smelting at Herradura, which he represented as very small, and that all the directors had ascertained to be considerable and wasteful. Moreover, Mr. Allison, and that they were most of them, in debt to the company, without the sanction of the board, and were engaged in unauthorised pursuits, contrary to their duties. The unfounded statements made as to Mr. Frederick Field's silver, which the board were urged to believe was fully successful at a time when it was known that it was a complete failure. What motive there could have been for this, until the very last moment, in so grossly and wilfully misrepresenting the fact that which was decidedly a failure, the directors are at a loss to imagine; and the fact that both Mr. Allison and Mr. Field still persist in calling what is noto-

riously proved to be a failure a signal success, only goes to show what reliance is to be placed upon any statement from those gentlemen when they have private considerations to influence them.

On looking into the state of affairs at Herradura, Mr. Barnes found that Mr. Allison was engaged in the formation of a rival establishment in the neighbourhood of the company's works; that Mr. Allison had, as representative of the company, cancelled the agreements of the chemist, book-keeper, clerks, overseer, foremen, masons, mechanics, and the best smelters in the employment of the company, and had entered into agreements with them himself for his new company; that he had cancelled the contracts with the miners supplying the establishment with ores, and appropriated them to himself for the remainder of the term; and had, moreover, informed them, and every one, that the company's establishment was to be closed and wound-up, and that he would carry on the business himself. It further appeared that the company's bricks and other materials had been abstracted from the company's premises, and appropriated to the building of the new works which Mr. Allison was then engaged in constructing.

One main source of the error in Mr. Allison's statements has proceeded from his not having made it a point accurately to ascertain the loss of copper he sustained in the slags during the several years' working. Mr. Allison had throughout represented the loss of copper as very trifling, and in one year he went so far even as to attempt to show that he had actually produced more copper than he had paid for in the ore. Mr. Allison stated that he had all along kept an accurate check on the slags, and latterly, upon the repeated insistence of the board, did forward statements and reports from the chemist to that effect, which the directors regret exceedingly to say they have now ascertained to have been wholly destitute of foundation. It is, in short, proved that no regular or proper test of the slags was ever maintained, and (as evidenced by the slag thrown away in former years) instead of $\frac{1}{4}$ per cent., or less, as reported by Mr. Allison, the loss, as proved by the tests since made by Mr. Barnes, has been $\frac{3}{4}$ per cent. What the present case suggests is gross negligence on the part of Mr. Allison, for he had kept up a regular system of tests of his workings he could never have committed such mistakes as these.

By the balance-sheet, it will be seen that the company's outlay in Chili on Dec. 31 was—At Herradura, 194,655; Caldera, 109,677. The statement of the stocks on hand at both establishments, together with all other particulars, are on the table, but as they necessarily comprise considerable details, rendering it impracticable for the shareholders to examine them at this meeting, they will, together with the whole of the correspondence which has passed with Mr. Allison, be open at any time to the inspection of any of the shareholders who may choose to call at the company's office for that purpose.

In the midst of these discouraging circumstances, it is a great satisfaction to the directors to be able to state that the company's establishment at Herradura is now in an effective working condition, more so, even, than it has ever been before. The make of Mr. Barnes since he has got into full work contrasts very advantageously with the performance of his predecessor. Indeed, the order and regularity introduced into the general system of working, the moral conduct and contentment of the people, and the substantial economy in the cost of labour as compared with the quantity of work turned out, already testify, in a still more striking manner, to the superiority of the present over the former state of things. Mr. Barnes has had, and still has, great difficulties to contend with in the state of circumstances which surrounded him on all sides. He has, nevertheless, so far met these difficulties with a vigour and decision which have inspired the directors with the highest confidence in his administrative capacity.

In reference to Caldera, the directors state that Mr. Field was over and over again called upon by the board to furnish specific and complete details of his working, but they seldom got anything more from Mr. Field than a message, such as being too busy then, he would write fully by the next mail. Upon two or three occasions he did write, but each time the packet sailed before he had completed the treatment of the remains of the trial he had in hand, or so, at least, he has upon each occasion taken the opportunity to state it. The next mail, it was to be expected, would bring an account of the final issue, but nothing of the kind ever came forward. This mode of proceeding on the part of Mr. Field gave the directors the greatest umbrage and dissatisfaction, and finding, as they did, that they could neither rely on the accuracy of any of Mr. Field's representations, nor any longer entertain confidence in his management, they determined to suspend the purchase of silver, and to terminate his agreement with the company.

It was not till the last moment the directors felt that their duty to the company compelled them wholly to withdraw their confidence from Mr. Allison. Events have shown that their decision was not taken one day too soon. It is neither necessary nor expedient for them to make any further reference to Mr. Allison's proceedings, nor to any questions existing between him and the company, inasmuch as legal proceedings have already been instituted thereon in Chili. Only one remark will they make, and that is, that the single circumstance of Mr. Allison having taken the bricks and materials of this company to build furnaces for a rival establishment (when there was an express inhibition to his selling any of the company's materials), is, in the judgment of the directors, a most egregious and disgraceful abuse of his trust, for which no conceivable excuse or justification can be found. Unfortunately, no vigilance on the part of the directors could have guarded against such an event.

To the future, the directors have every reason to look with considerable confidence. The establishment at Herradura they consider to be in better working order now than it has ever been before. They have taken care to supply Mr. Barnes with all needful assistance. The recent fall in the price of copper in England is, of course, for the moment disadvantageous, but it is to be expected that it will be met by a corresponding reduction in the price of ores in Chili, where the prices had necessarily advanced with the advance which took place in this side in the price of copper. The directors can, with all safety, say that there is no establishment in Chili that can produce copper cheaper than that of the company at Herradura, for the simple reason that none can be better or more economically served with the elements to render it efficient.

The CHAIRMAN said, after the report that had been read, in order to give the shareholders an opportunity of asking any questions, he would move that the report and balance-sheet be received and adopted.

Mr. JACOBS said he had paid great attention to the report, and a more unsatisfactory statement he had never heard, showing, as he considered, a gross dereliction of duty on the part of the directors, such as he had never heard laid before any meeting. The loss might not be of much object to him, but there were many poor persons who had worked hard for their money and invested it in this undertaking, and it was the interest of those he advocated. He believed the whole of their directors were men of great respectability, and he did not intend any personal reflection on them, but shareholders were entitled to know the exact position and operations of the company, whether the directors had discharged their duties, and whether, if a proper supervision had been exercised over their affairs, they would have been in the present state. The directors were called to the improper proceedings that were going on in Chili, and at this time last year they declared the same dividend, of 7s. 6d. per share, without giving the slightest intimation of what was going on, which he considered was not fairly discharging their duty to the shareholders. He believed the board of directors was composed of gentlemen who were too intimate with the Chairman, and left too much in his hands, thus placing too much under one influence; and when they found that members of that board were mixed up in partnership with the Chairman, he believed the shareholders would agree with him that it was time some new blood should be infused into it. Mr. Ward was upon the present occasion seeking to be re-elected, and though he had not the pleasure of knowing him, from all he had heard of him, as a more independent gentleman did not exist, and to him they were greatly indebted, as it was since he had been a director those discoveries had taken place, and been brought to light. This showed the advantage of introducing new blood. It was impossible to read the report without thinking that some years back an alteration ought to have taken place. It appears that the superintendent got almost every man over to him, and he would ask the meeting whether they thought he could go on in that manner without the knowledge of the directors? It was evident from the report that in May, 1855, they knew of the improper proceedings that were going on in Chili, and yet they declared a dividend in July, 1855, without telling one word to the shareholders. He would ask, was it fair at that time to pay the dividend? It was stated in the report that shareholders could come to the office and inspect the correspondence and accounts, but if the conduct of the directors was above-board they would not object to the appointment of four or five shareholders as a committee of investigation to look into the accounts, and in moving for such a committee he hoped their report would add honour to the directors. If, too, it was found that more capital was required, he hoped the shareholders would rally around the directors and subscribe it. He would conclude by moving that seven gentlemen be elected as a committee of investigation, with power to call for all papers and documents, and that the directors be requested to give them every assistance.—The resolution not having been seconded.

The Rev. Mr. NEWHAM addressed the meeting in a speech of considerable length. He was amused to hear that they had paid too much in dividends; it was not a general complaint with shareholders. He certainly hoped that the board would have decided upon issuing debentures, by which means parties unable to meet the call would be relieved. It had been complained that the directors did not know what was going on in Chili, but they must consider the distance, and that it took time to detect the fallacies. Mr. BLANFORD never heard a report read so strongly condemning the board for their inertia. It was proposed to call up further capital, though they admit they were aware in 1855 that they were being misled, and yet in Jan. 1855, they came forward and stated it would be a great advantage to increase the capital 65,000. Did the directors mean to say there was not then some misgivings as to the working of the company? Could any one put his hand to his heart and say it was a justifiable way of going on? He did not charge them with connivance at the fraud, but he did charge them with

gross neglect and great inertia; however, with regard to a committee of investigation, he did not expect any good would result from the appointment, and he would rather trust to the directors, if they would acknowledge their fault. There was another point to which he would allude: he considered it most unfair that the directors did not apprise the shareholders to some extent of the mischief they knew was going on, and thus give all parties an opportunity of getting rid of the shares.

The CHAIRMAN said no one could have expected the meeting to pass over without very strong observations. When dividends were paid there were none so good as directors, and when no dividends were paid no persons so bad, and yet when dividends were not paid there was often the greatest amount of labour on the directors. He could assure them this was one of the most notorious companies to manage, and the directors were obliged to devote to it the same attention as to their own private concerns. From what had been said, he had been looking to some specific charge, in order that he might answer it, on behalf of his brother directors and himself. They were accused, it is true, of not letting the proprietors know what was going forward. There was also another curious and unusual charge—that they had paid too much in dividends. Until they had secured the property in Chili, it would have been the height of imprudence to have said one word about the measure in proposal. With respect to the accounts, they would find every line vouched, and although there might be some difficulty in going into every minute detail in a report, every letter, whether written by the directors or received by them, was open to the shareholders for inspection in the office. Mr. Allison was absent, and it might not be fair to say much against him; but this he would say, that in the whole course of his long experience with companies abroad he had never heard of proceedings like this—in using the bricks of this company in constructing his own furnaces. They did not know this until recently, and when they heard he was carrying on commission business, means were immediately adopted to get rid of him. If it had been suggested that they ought not to have called for additional capital, but he must remind the proprietors that in four years they had paid upon the whole working capital 70 per cent. dividend, or equal to 17½ per cent. per annum, and if the accounts could be seen, it would be found out of those additional shares it was not the smallest number taken by the board, and it could not be said that they placed the bright side without the dark one before the shareholders.

Mr. DAVIDSON wished to know whether, assuming all the call was paid up, it would fully accomplish all the directors required?

The CHAIRMAN answered in the affirmative, and as a proof of the benefit of having sufficient capital, he would inform them that for advances made in Chili they had to pay 1½ per cent. per month, and in addition a commission.

Mr. SCHNEIDER assured the proprietors that, to a very large extent, the additional capital proposed would do away with those charges.

Mr. SPENCER HERAPATH wished to know whether the capital was intact?

The CHAIRMAN said it was.

A SHAREHOLDER having seconded the motion of Mr. Jacobs, Mr. W. WILSON said he was a large holder, and had paid 6s. each for his shares. His family and friends also held very largely in the company, and were quite ready to pay the call, and he firmly believed that nothing would damage more than the appointment of a committee of investigation. (Hear.) After some discussion,

his resolution would be prejudicial to the interests of the company, he should at once withdraw it. (Cheers.)

The report and balance-sheet were then unanimously adopted, and Mr. Ward re-elected director, amidst much applause.

Mr. JENKINS saying he had been a large shareholder for many years, and had called at the office after the arrival of every mail; every document was laid before him, and he could testify that both Mr. Ward and Mr. Ranking gave unremitting attention to the interests of the company. (Hear, hear.)

Mr. GODDARD moved a vote of thanks and confidence to the directors, which terminated the proceedings.

AUSTRALIAN MINING COMPANY.

The eleventh annual meeting of the company was held at the London Tavern, on Monday, Mr. R. F. DAVIS in the chair.

Mr. WALFORD (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.

The report of the directors congratulated the shareholders on the improved position of the company in public estimation. At Tungkillio, Mr. Forster having driven about 5 fms. in the 67, found the results unsatisfactory, and, therefore, acting upon the instructions of the board, he very properly decided on discontinuing all operations below the adit level. The pumps, and other articles of value below the adit, were brought to surface. He had since prosecuted only operations of actual necessity, or employed men working on tribute. The directors had been led to hope that after the abandonment of the deep workings at Tungkillio some quantities of ore might have been found in the upper workings, and raised on tribute; but they regret to say that Mr. Forster, writing under date March 19, says that only about 25 tons have been thus raised, and he fears that there is not sufficient inducement for miners to continue any longer at tribute work. In the last report it was named that Mr. Forster was preparing to ship about 95 tons of ore; the ore was shipped in December last, 61 tons were sold at Swansea, on June 4th, for 1038s. 17s. Of the remainder, 31 tons were sold on the 22d of the present month, and a further amount of about 6 tons will follow a few weeks later. Mr. Forster removed from Tungkillio to the Charlton Mine in January last, and in the course of that month he commenced breaking ground. The report then concluded with the letters received from Mr. Forster, the substance of which have, from time to time, appeared in the *Mining Journal*.

The following statement of the company's assets and liabilities, so far as can be accurately ascertained, is made up to July 17. Assets—Money at call, 2500s.; cash at bankers, 955s. 1s. 2d.; ore sold, 1038s. 17s.; ditto unsold, 630s.; outstanding, 1232s. 10s.—6096s. 8s. 2d.—Liabilities—Acceptances to date, loan, notes, 750s.; colonial drafts, July to Sept., 1600s.; sundries, 25s. = 2375s. The cash account to June 14 showed a balance at bankers of 959s. 9s. 7d.; petty cash, 14s. 2s. 10d.—975s. 12s. 5d.

The CHAIRMAN, in moving the adoption of the report and accounts, said he could have wished that it had been more favourable, but at Tungkillio they have proved that the ore was only in pockets, and they had never found a continuous vein. It was a relief to the directors to inform the meeting that the agents had followed their instructions, and discontinued the work. The board had hoped from the letters received that large quantities of ore would have been raised on tribute from the upper workings, but the men had given up, finding the profits were not so good as in some places elsewhere. Indeed, after working for six weeks, instead of getting from 100 to 150 elsewhere, they only raised 25 tons. The board had since written to Mr. Davenport and Mr. Forster, for their opinion as to the best course to be adopted with Tungkillio—whether it should form the nucleus of a land company, or they should dispose of the property? He (the Chairman) was not in favour of a land company; but upon receiving answers from Mr. Davenport and Mr. Forster, the shareholders would be called together to decide upon what course to pursue. There was one point to which he would allude, of some importance: several of the shares had lately changed hands, and the largest buyers were parties connected with the colony. He had received, this morning, advice from Mr. Forster to April 16, which, as it gave a full account of the working to that date, he would read. He (the Chairman) then read the following letter:—

Charlton.—On our leased land we have set two winzes to sink on the course of each branch, and the men are now preparing the tackles to commence. Yesterday, in opening further on the course of the easternmost branch, we broke as fine stones of the blue and green carbonates as I ever saw. In the bottom, which is only about 6 ft. under surface, the ore is better, and the branch more regular than above. We intend to sink both winzes to water level, which will be between 5 and 6 fms., and thence drive each way on the course of the branches, and also in opposite directions as crosscuts. Independent of the two branches, which are of an average thickness of 8 in., and one of them very solid, the country, which is of a soft brownish killas, is in the vicinity of these branches very much mixed up with ore, so much so as in some places to be worth sinking; the ground can be driven for about 25s. per fm., including all costs. At this place I expect we shall very shortly have to put up a winze, so as to get down to about the 20. If these branches continue northwards to hill, we shall have 30 fms. of backs above adit. On your freehold there is little to report, as until we get the adit holed up to the old shaft we do not expect to further prove any of the branches we were driving for previous to commencing it. In ten days or so I hope the adit will be completed, when we shall commence to drive west on the run of the ferruginous land (which is not unlikely to prove a cross-course), so as to intersect all branches which may make up to it from the killas ground. From the number of branches of iron (some carrying good ore) which have crossed the old shaft, as well as the levels driven in the killas, there can be little doubt but by sinking about 20 fms. near this shaft we should discover the lode from which the branches have come from or are making to; this we should set about at once, only I am wishful to see, by further driving, whether or not there may be a more likely place, or a point at which the shaft would prove more ground or more branches than by putting down near the old shaft."

The CHAIRMAN moved that the report and accounts be received and adopted.

A PROPRIETOR wished to know the number of acres of land at Charlton Mine? The CHAIRMAN replied 322; and in answer to further question said, although the property was 180 miles from Adelaide, it was only 20 miles from a shipping port. The value of the whole of the land, ores, machinery, &c., was estimated at 26,000s.; that estimate was without reference to good will, but merely bringing the concern into the market. In 1854 the land was selling at 2s. per acre; however, it would be seen by the report that at Allen's creek 665 acres had been sold at 3s. per acre.

Mr. COXHEAD said he must ask permission to address the meeting, as upon the last occasion his observations were severely commented upon in the *Mining Journal*.

He (Mr. Coxhead) then indulged in a violent attack against the party alluded to, much to the amusement of the meeting. He contended that they were bound, hand and foot, to pay 25s. per share. The report congratulated them upon the improvement of the company in the public estimation; but that merely arose through not being called upon for more money. There was no improvement in the old property, and he believed nothing in the new; yet they were going to pursue the same system of sinking shafts.

A PROPRIETOR considered it would be quite premature to think, at the present time, of winding-up, but they might keep the question before them. He wished to know how many shafts were sinking?—The CHAIRMAN replied, only two winzes.

Mr. J. HITCHES said these winzes were sunk by hand, and might merely be called trial shafts.

A PROPRIETOR hoped the operations would be carried on carefully, and having regard to the pockets of the shareholders. If they did not go to enormous expenses, the mines ought to have a fair trial.

Mr. J. HITCHES observed that he had seen the last advices from Mr. Foster, and as far as he could gather, the operations were being properly conducted. They could not open ground and discover copper ore without expenses, and sometimes amounting to a great deal; however, from what he had seen, he believed they would open this ground cheaply.

These appeared to be an analogy between their property and the Burra Burra, and he warned them not to lose the ship for a pennyworth of tar.

After some discussion, the report and accounts were unanimously adopted, and Messrs. C. Downes and H. R. Wotton were re-elected directors. The sum of thirty guineas was voted to the auditors for the past year, and the proceedings terminated with a cordial vote of thanks to the Chairman and directors.

COLOGNE MINING COMPANY.

A general meeting of shareholders was held at the London Tavern, Bishopsgate, on Thursday, Col. J. G. W. CURTIS, C.B., in the chair.

The CHAIRMAN said, that if it met with the approval of the shareholders he would nominate Mr. J. R. Lattay the secretary of the meeting, and having read the advertisement convening the meeting, inserted in the *Times* and *Mining Journal*, called upon Mr. Neissen to read the notice inserted in the German journals, which he did. The *propos* verbal of the last meeting was read and confirmed.

RECEIPTS.		
Balance last account	£3,024 14	2
Calls received	6,980 10	0
Ore sold, from the mines of Claes, Bilsbach, and Vahlberg Mines	1,235 13	0
Interest, transfer fees, &c.	463 8	2
Gustav Huland, cashier and representative	403 1	0
Wm. Hennes, representative	90 11	0
A. Neissen, avocat, balance due to him	16 6	6
J. B. Whyte, inspector, ditto	2 16	0
Balance paid by late gerant before Oct. 31, 1855	188 3	0
Total	£11,044 17	3

EXPENDITURE.		
Disbursements in London	£1,383 14	8
Disbursements in Cologne and Elberfeld	32 5	10
Disbursements in Cologne, &c.	252 8	5
Disbursements in Cologne, &c.	167 15	7
William Illig, Cologne, in hand	18 0	6
Colonel Curtis, Brussels, in hand	18 0	6
Disbursements on the Mines of Fahrenberg, Rahrbaecherhöhe, Christians, Claes, Bilsbach, Flora, Alte Kupferkuhle, James Watt, Guter Heinrich, Vahlberg, Voigtlaube, and various mines under	5,487 7	2
G. Huland and W. Hennes	1,741 7	7
Balance due by G. W. Hodgskin, late gerant	200 0	0
Deposit at call with London and Eastern Bank	756 17	9
Balance with ditto	349 7	4
Ditto with A. and L. Camphausen, Cologne	22 12	6
Ditto of petty cash	1,928 17	7
Total	£11,044 17	3

The directors think it their duty, in the first place, to state to you that they have not given to the works the extension they intended, as they did not think themselves justified in erecting engines on more mines of the company, on account of many of the shareholders not having paid their calls. You know under what circumstances we engaged to continue our functions after you had recognised the civil nature of our company, which had for its object the working of a copper property in consequence of the suspension of the mines from becoming a crown property in consequence of the suspension of the works, but also to prevent those mines from being sold, and sold by creditors to the mortgagees upon them, and by those who had recently obtained judgments against our company for debts contracted by the late gerant. You decided, at your general meeting on January 4 last, that a call of 4s. per share was indispensable to prevent those fatal consequences; this call ought to have produced 10,000s., but it only produced 6666s. 2s. The shareholders who did not vote for the measure, or who did not attend at the meeting, have not paid the call, and have, consequently, not contributed to preserve the property of the company, notwithstanding that we addressed to them three circulars, in which we made known the impending danger, the legal rights of the State and of the shareholders, that it would be necessary for the protection of those shareholders who had paid their calls to procure the forfeiture of the shares of those who had not paid, as required by the Prussian law. We have not thought proper at present to call upon the holders of reserved shares to pay the call, for it would be injuring the original shareholders to admit the reserved shareholders to profits until the original shareholders receive 10 per cent. This measure ought only to be resorted to in the last extremity. We have disposed of our funds according to the accounts, which have been submitted to you. We do not regret that the works have not been forwarded more energetically, for the minerals are still in the bowels of the earth, and in two years an excellent railway, which will pass near the mines, will greatly reduce the cost of coal, and enable us to extract our minerals at less cost than at present, and to sell them at great profit.

Since our last meeting, the directors, Messrs. Moeller, Illig, Raab, and our Chairman, have been several times to the mines, the two latter going in the month of June, accompanied by Mr. Fachamp, an eminent Belgian engineer. They had the satisfaction to hear from that distinguished man, in the presence of, and confirmed by, the district geschworen, Mr. Fabricius, the most highly favourable character of the mines. At our last meeting, you manifested a desire that no forfeitures should be pronounced, and in deference to your wishes, we had recourse to no other means than those of persuasion. Though you are, in fact, in possession of the mines, the legal rights of the State and of the shareholders, or of W. G. Hodgskin and Co., are not yet extinguished. We must now tell you what is your present legal position with respect to shareholders in arrears, who seem determined to remain so, and refuse their concurrence, and may assume an aggressive aspect, and demand a winding-up of the company. Fortunately, we can reject the winding-up, according to the terms of the second article of the Prussian law of May 12, 1851, which says, "Companies of this nature cannot be dissolved, even should there be only one who objects to the dissolution." We have, therefore, only to perfect our organisation as a *gewerkschaft* to continue to act on the defensive; but we think that the time is come to take the offensive, and to prepare for the opening of the mines, and the advantageous sale of our minerals. It is now necessary that all calls should be paid up, in order to complete the works. To attain this object, we must from this moment perfect our organisation as a *gewerkschaft* at the Prussian law, and force the persons in arrears, according to the manner used by the ordinance and laws in force in Prussia, either to contribute in proportion to their respective shares to our expenses, or to be declared by our company to have forfeited all right of property in the mines. We must reject that our company was constituted in Prussia, and has for its object the working of mines in Prussia, and is, consequently, governed by the laws of that kingdom. By these laws, the mines are only conceded to the State and to the shareholders, and the holders, on the condition that the latter work them without interruption, on pain of forfeiture. Each mine is divided into 128 parts or kuxes for the grantees; each kux is susceptible of a subdivision into eight 1-1024ths. No shareholder can be registered by the gerant if he possesses less than 1-1024th of the part belonging to the grantees of his kux. Any shareholder who may have a right to a part less than 1-1024th must sell it to one of the co-proprietors of his kux. No one can be forced to contribute to any expense which he has not sanctioned. Any one who refuses to contribute to expenses required by the gerant to be just will forfeit his right.

When mines belong to several proprietors, they must name a person to represent them in the gerant. So you have only the mines to guarantee the repayment of principal and interest of the 4s. advanced; you have no hold upon the shareholders, who have refused tacitly or expressly to contribute to these expenses; but, in future, when the outlay which may be made out of the funds which shall be received on your account, arising from the sale of minerals extracted with your money, you will doubtless require that these persons who expect future advantages from the works should also join you in the adventure, and advance the same sum as you do.

We consider that once the organisation in *gewerkschaft* is no impediment to your continuing, with respect to your board of directors, to dispose of your parts in the form of shares, in the manner upon which we shall agree when the mines have been divided into portions or kuxes, when the forfeitures have been pronounced—when, in a word, we can state precisely our respective parts. In the meantime, those who have paid the 4s., or who offer to pay them, may continue to dispose of their shares as heretofore, and give us notice of the transfers; we will watch over the preservation of their rights. We are in no way bound towards those who refuse your concurrence. In conformity with the desire manifested by a great number of parties interested, the board of directors will hand to you a transferable certificate, which will entitle you to be paid that sum from the produce of the minerals; or, in case of dissolution, the proceeds of the sale of the mines, as a debt. In order to facilitate our communication with the representatives of our mines, and in a more effective and permanent manner to watch over your interests, we have appointed Mr. Whyte inspector at Derachlag.

We think it necessary, in consequence of the defaults of a great number of our co-proprietors, to restrict our outlay—1. To the expenses strictly necessary to prevent forfeiture of our mines—2. To the expense of extraction in proportion to our profitable sales, as not to accumulate a stock of minerals, but to be able, by the proceeds of such sales, to defray the necessary expenses of working our other mines, without again making a call. Pray do not forget that the proceedings of our meeting must, by law, be communicated to the Prussian authorities, and especially to the burgomaster of Siegen, and to the burgomaster of Bonn, and that they must be signed by all shareholders present at this meeting, in conformity with a circular issued by the Prussian Government on March 29, 1856. Our faith is unshaken in the ultimate success of our enterprise, if we conform strictly to the mining laws of Prussia, and we believe the results of our labours must eventually realise our expectations, and reward the exertions made for the common interests of the company.

The CHAIRMAN said they had now before them the result of their operations for the last six months; all the difficulties they had encountered, and the operations they had carried into effect. He had to congratulate the shareholders who had supplied the funds for the redeeming of the mines from forfeiture to the Government, but it was now time that the shares of those who had failed to pay their proportion should be forfeited. It was true that they had arrived at what he might call a successful issue; but it should be borne in mind that such results could not have been obtained without the co-operation of the shareholders. The result of their operations continued to improve, and he considered the mines generally were in a fair position for increasing their profits. They were much indebted to the courtesy and support they had received from the Prussian authorities, from Mr. von Dagen, Überberg, together with Mr. Bokhoff and others, who had considered the Murchison of the Continent; this gentleman, the undertaking, admitting the "thoroughly British support," as he termed it, the council had met with in combating the disastrous results of the company had derived from their gerants' mismanagement. On the present occasion, he would have to request the shareholders present to sign the *propos* verbal, and their signatures must be sworn to before some person having weight with the Prussian Government—in

deed, he might say before the Prussian Consul. This might appear to many a troublesome and needless formality, but it was absolutely necessary, if they were to do anything. It was provided by the Prussian law that the council could not dispose of an inch of the company's property without the written consent of the majority of the shareholders. He did not say that they intended to; but this law prevented the possibility of the directors doing anything without the consent of the shareholders. They had no right to the report that their faith in the mines was unshaken, and he was glad to say that, for the last month, they had paid expenses. A contract was pending with Mr. Hamacker, who was one of the largest holders of blast furnaces in Prussia. Before they proceeded with the resolutions, he would observe, that the reason of the report not being printed before the meeting was because the law required that it should be first submitted to the shareholders and approved.

A SHAREHOLDER enquired whether in the event of their forfeiting the shares of those gentlemen in arrears, the company would be inconvenienced for want of money?

The CHAIRMAN said they might be in want of money; and, as he was of opinion that the defaulters should not reap where they had not sown, he was desirous of forfeiting all shares in arrears as speedily as possible. They had sufficient capital to go on with at present. If they were to issue the preference shares in the ordinary form, the holders of those shares would only, in the event of winding-up, be upon an equality with the other shareholders. This he was desirous of preventing, and they had, therefore, drawn up such a form that the preference shareholders would come under the category of creditors of the company, and therefore have first claim. He did not for a moment contemplate the winding-up of the company, but yet he considered it advisable to protect themselves. If the mine were to be sold to-morrow the shareholders' signatures, he considered them that the bargain was very careful of the interests of the shareholders, and when he went there, although they fully recognised him as Chairman of the company, they refused to allow him to do anything without the express consent of the shareholders. They proposed to sell the Rahrbaecherhöhe, which would provide them with ample funds to work the Vahlberg and other more profitable mines, whilst the character of the Rahrbaecherhöhe was sufficiently known to secure a purchaser at a good figure; they had, therefore, framed a resolution to give them the requisite power.

In answer to a question from a shareholder, Mr. LATTAY explained that the balance from last account, together with about 1700s. of hard cash, was left unaccounted for by their late gerant.

Two letters were read (by a shareholder) that had been received from Mr. Whyte, but the Chairman declared them much too sanguine, and, therefore, declined allowing them to be recorded on the minutes, although he said it was necessary that they should be placed upon the table as part of the correspondence which had been going on between London and the Continent relative to the company.

The CHAIRMAN observed, that although those letters had been read, it was against his wish. In his opinion, Mr. Whyte deserved the greatest praise for his conduct and business habits. He believed him to be a hardworking and painstaking man as the company could have engaged. He could not say too much in favour of Mr. Whyte, yet he thought that in the present instance he was too sanguine. He was confident that Mr. Whyte wrote nothing but what he believed to be correct, but he also recollected how frequently they had had hopes held out to them which had not been realised. Previous to the engagement of Mr. Whyte, his colleague, Mr. Patar, had taken every care to make enquiry as to his qualifications. Mr. Müller had expressed his determination not to have an Englishman after Mr. Hodgskin, but Mr. Whyte was only two days in the company of Mr. Müller before he had given him his good graces. Mr. Raab was slower in his decision, but ultimately asserted that he was really more favourable to the appointment of Mr. Whyte than he was to his friend who, in the first instance, he had recommended. Again, he said, "do not build your hopes upon the letter;" he believed it, it was true, but did not build upon it, they had been so often disappointed. They had appointed Mr. Huland, who, although they at first considered was wanting in integrity, they now found was strictly honest. He would, therefore, openly assert that their suspicions relative to that gentleman were entirely without foundation.

It was then resolved unanimously (and the resolutions signed by the shareholders present in accordance with the laws of Prussia), that the director's report be received and adopted; that the directors be empowered to defend actions brought against the company by recalcitrant shareholders, and to dispose of such mines as they may deem desirable; that the company's mines be worked under the Prussian law of May, 1853; that the signers of the report authorise each member of the council, Mr. Whyte, of Derachlag, and M. Neissen, of Brussels, to represent them in defence of their rights; that the directors be authorised to claim new concessions, and to oppose all concessions tending to infringe the rights of the company; that Major G. I. Way and Mr. H. M. Knappe be elected members of the council in room of Col. the Hon. H. B. Delisle and Herr W. Illig who retire by rotation; and, that the preference bonds, as proposed by the Chairman, be issued to those entitled to them. A vote of thanks to the Chairman terminated the proceedings.

UNITED MEXICAN MINING ASSOCIATION.

The half-yearly meeting of proprietors was held at the company's offices, Finsbury-circus, on Wednesday, Sir JOHN EASTHOPE, Bart., in the chair.

The SECRETARY read the notice convening the meeting.

The CHAIRMAN said, since the last meeting he had communicated with Major Farrell, that he was the unanimous opinion of the shareholders to reject the proposal for the purchase of the company's debt on the Hayes Mine; and also informed him that it would be necessary to submit any other offer to the shareholders previous to Major Farrell giving his consent to it.—The SECRETARY then read the following report:—

The directors having so recently, at a special general meeting of proprietors, laid before them their report upon the mining operations of the company to the latest dates then received—namely, the 14th of April last—have, at the present half-yearly meeting of shareholders, only to advert to the particulars contained in the despatches since received from GUANAJUATO.

JESUS MARIA Y JOSE.—The new shaft of Santa Maria, on June 13th, had reached a depth of 199 varas, the rock continuing favourable for driving; the communication with the lower workings, at the depth of 225 varas, being looked for in September, if not before. The position of San Maximo had been carried on under very promising circumstances, the direction of the lode continuing to the north-west, and still favouring the idea that it is the great vein of La Luz. The extraction of ore from this work had remained the same in quantity, and had improved in quality. The pozo having shortly after been turned into a frente, was still in good ore; and, in the north-west direction, this frente had a width of 2 varas by 3 in height, the extraction averaging 12 to 15 carrazas daily. The debt due to the company from this mine is \$336,474 2.

LA TRINIDAD.—Nothing material respecting this mine had occurred. The operations had been limited to the prosecution of the frente of Dolores, and the pozo of Jesus which is to give access to the communication with the lower workings of Santa Rafael and Dolores. In the pozo of Jesus the rock was very hard, and the narrow strip of ore which was against the upper wall had almost disappeared. Only 4 varas have been excavated during the last five weeks in this pozo, but between the frente and cross-cut of Dolores 26½ varas; favourable appearances, with now and then a stone of pure ore, are all the results at present. The debt due to the company from this mine is \$181,249.

ALDANA presents no new feature to comment upon. The mine is only being kept from abandonment. The debt due to the company is \$129,687 4.

RAYAS.—The loss of time during the five weeks of May had diminished to \$1474 7, and for the first 14 days of June had showed a profit on the workings of \$30 5 7. The debt due to the company is \$222,939 0 4.

ZACATECAS INDENTMENT.—The directors have to announce no further payment as yet from the Mexican Government. The debt due to the company is \$48,564. The following is the Mexican statement of receipts and expenditure for the year ending Dec. 31, 1855:—

RECEIPTS.		
Amount received from the Mexican Government, on account of the Zacatecas claim	\$43,313	7 7
Capital supplied from England	26,375	6 0
Quicksilver—profit on this account	987	5 2
Hacienda of Dolores—profit on this establishment	12,134	7 0
Interest—received on ordinary accounts	1,214	0 0
Exchange—for premium on bills	3,825	0 7 = \$86,547 1 4
EXPENDITURE.		
Legal charges	\$ 623	4 0
Expenses of management, accounts, commissions, &c.	21,133	7 1 = 21,756 3 1
Outlay on the following mines:—		
Mine of Aldana	5,161	0 0
Mine of Jesus Maria	507,139	4 1
Less value of produce	25,198	7 5 = \$1,910 4 4
Mine of La Trinidad	51,202	5 6
Less value of produce, \$11,252 3 s., and Mr. Furber's moiety of outlay, \$19,979 1 1	31,227	4 4 = 19,975 1 2 = 67,076 5 8

FINANCES IN LONDON.—The following is the audited account of receipts and payments from Dec. 31, 1855, to June 30, 1856:—

RECEIPTS.		
Brought from audited account to Dec. 31, 1855	£10,890	0 2
Transfer fees	52	12 6
Interest	140	13 5
New loan	5,764	0 0
Discount on stamps	1	2 6
Total	£16,759	3 7

PAYMENTS.		
Amount charged to the manager in Mexico	£19	3 1
London expenses (two quarters)—viz., directors' fees, property and income tax, advertisements and newspapers, leasehold estate, law expenses, salaries and wages, petty disbursements, coal, oil, &c., rent and taxes, stationery, and postage	645	14 6
Dividends, bills payable, and interest on new loan	5372	7 4 = £6,037 4 11

ASSETS.		
Exchangeable bonds taken at par	£1500	0 0
Cash at interest	5000	0 0
Cash at bankers	1989	2 10
Stamps on hand	150	0 0
Petty cash on hand	21	4 4
Interest on new loan on hand	32 13	6 = 10,721 18 8 = £10,759 3 7
Assets brought forward	10,721	18 8
Amount received since, on account of second moiety of new loan, due May 31 last	19 10	0 = £10,741 8 8

PAYMENTS.		
Acceptance paid July 3	3000	0 0
Sundry accounts	104	3 4
Dividend account	1 12	0 = 3,105 15 4
Leaving	£7,635	13 4
Subject to the unclaimed scrips, dividends, and interest on new loan	5,239	6 8
Surplus	£2,396	6 8

MANAGEMENT IN LONDON.—Charles Morris, Esq., and John Weston, Esq., the two directors, and Charles Biggs, Esq., the auditor, going out of office by rotation, but being eligible, are candidates for re-election.

The CHAIRMAN said so little had been communicated since they last met (June 25), that he had scarcely a word to add. The last account was, that the shaft of Jesus Maria was down 199 varas, and it was upon this part of the property that their hopes mainly depended. They calculated reaching the vein at 225 varas; and, at the rate they

were going on, they would reach that depth by the end of August or beginning September, and that being the case, they had authorised Major Farrell to draw 5000s. instead of 3000s., which they could provide for by breaking in, to a amount, upon the sum they had in hand, without making another call.

A PROPRIETOR said it did not follow that Major Farrell would draw for the amount, if anything good should happen to occur in Jesus Maria.

Mr. MOAN (a director) said Major Farrell had not drawn up to the present a single shilling of the amount.

The CHAIRMAN said he could not better reply to the enquiry than by reading a of the last instructions sent out to Major Farrell, which stated that they had ceased the credit from 3000s. to 5000s., at the same time intimating that they hoped he would not require it; and he was quite sure, if Major Farrell did not, he would not draw upon the company. But he (the Chairman) thought it to be required; as they got down the expenses must increase, and they must take in the redemption of the ore. The proprietors might rely upon their not making further call until they were compelled; and he would be as much pleased as were in not being called upon for any more money. The proprietors might rely upon directors would not call for any more money until it was positively necessary, and would now propose that the report be received, and, before adopting it, should be given any explanation or answer any questions.

Mr. MOAN reminded the meeting that they had no power to make a call, but were authorised by the proprietors to raise 21,567s., and out of that amount 12,008s. had been subscribed.—The CHAIRMAN thanked his colleagues for the objection, it was only the balance of a loan.

As Mr. MOAN complained of the reporters, in representing upon the last account that their property was a wreck.

The CHAIRMAN defended the reporters, whom he considered had performed arduous duties towards the association. He did state that the best thing could do was to cling to the wreck; and why should any one be frightened at word wreck? whilst they must feel, if they deserted the vessel at the present time they would not be dealing fairly with it.

Mr. PHILLIPS said it was an injustice to the reporters to charge them with the property a wreck; the Chairman did say so; but the way he put it was, that they had already spent 1,000,000s., and it was not the time to desert the undertaking. Although they had only two or three mines left, it might turn out a good concern. With regard to the funds, he was of the same opinion as expressed by the Chairman. He considered 5000s. would be wanted, and perhaps more; for, although they were out the vein rich at 225 varas, they might have to cut a cross-cut, and they might be disappointed if they did not get large returns in September.

The CHAIRMAN said he perfectly agreed with Mr. Phillips, who was a practical man, and no other gentleman was better able to give an opinion. In sinking a mine they might come to riches, but they would not find the gold ready coined. They had brought to surface, and go through many processes, which must cost considerable time. He could always depend upon what was stated by Mr. Phillips in whom he had the greatest confidence.

Mr. MORRIS and Mr. Weston were re-elected directors, and Mr. Charles Biggs, auditor; and a cordial vote of thanks to the Chairman terminated the proceedings.

SORTRIDGE CONSOLS MINING COMPANY.

The quarterly meeting of shareholders was held at the London Tavern, on Monday, Mr. W. A. THOMAS in the chair.

Mr. COHEN (sec. pro tem.) read the notice convening the meeting, and the minutes of the last, which were confirmed. The directors' report, and the statement of accounts of which the following is an abstract, were submitted:—

Copper ore sold, April, May, and June	£4209	18 6
Discounts, interest, &c.	87	5 2 = £4307 3 8
Mine cost for April, May, and June	2632	4 11
Dues on ore sold	297	5 0
Donation to Horthridge school	10	0 0
Erecting 22-in. cylinder engine, at 21s. per in.	23	2 0
Discounts on carriage, &c.	11	8 11 = 2974 0 10
Leaving balance, being profit for the three months	£1333	2 10
Balance last account	2387	11 8
Balance in favour of mine	£3720	11 6

The total balance of assets over liabilities was 4630s. 4s. 8d.

Mr. H. PHILLIPS proposed that the report and accounts, as presented, be received and adopted.

Mr. McALLAN seconded that proposition with much pleasure. The accounts considered most admirably prepared, and, in his opinion, fully proved that the company, in appointing Mr. Cohen secretary, had chosen a man who was fully competent to undertake the office. Mr. Cohen did nothing in the way of shareholding, and he trusted, if his appointment to the secretaryship were confirmed, he would not depart from that course.

The resolution was then unanimously carried, and nearly every shareholder expressed his unqualified approbation of the accounts.

The CHAIRMAN said, their next duty was to confirm the appointment of Capt. Richards as the superintendent manager of the mine. He had been the principal agent who carried out the Devon Great Consols, and he thought they were just in obtaining his services for their mine. He, therefore, moved that the appointment of Capt. J. Richards be confirmed.—In answer to a question from a shareholder, he added that the salary agreed upon was 60 guineas per annum; and the savings would come to be effected would far more than compensate for that amount.

Mr. SCHOFIELD stated that Capt. Richards had already effected considerable savings in the expenditure, and although the samplings were lessened, the monthly cost had been proportionately reduced.

The CHAIRMAN observed that, since the report was drawn up, they had received a letter from Capt. Metherell (their resident agent), which stated that they had cut the lode in the shaft under the 50 ft. level, and they had broken from it good stone ore of excellent quality.

Mr. MUNDAY enquired whether it was the intention of the committee to declare a dividend?—The CHAIRMAN said, that the committee did not recommend a dividend, but the matter was, of course, in the hands of the meeting.

Mr. MUNDAY would propose a dividend. He considered it was appalling 26,000s. worth of mineral should be sold, and the shareholders receive but 12s. They had 3720s. balance, and from the report it did not appear that additional cost was necessary. He moved that a dividend of 2s. 6d. per share be declared. And in order to allay all fears that their financial affairs would not admit of such a further proposal, that the dividend be paid on Aug. 21, when they would have about 1600s. more in hand.

Mr. POWELL seconded the resolution, and stated that Capt. Richards told him, the lode was reached east of the cross-course it would be as valuable as it was in the lode in the 40 ft. was worth from 2 to 3 tons per fm., and the average at which ore sold was 8s. or 9s. per ton. Capt. Richards had not the slightest misgivings as to the value of the mine, so that he (Mr. Powell) considered they had nothing to do from declaring a dividend.

The CHAIRMAN said the committee were deeply interested in the propriety of mine, and although they had no doubt of a successful result, they had abstained from recommending a dividend, preferring to leave that point to the shareholders' decision.

Mr. SCHOFIELD stated that his reason for not advocating a dividend was his objection to pay dividends until it was certain they would be continuous; however, the mine was yielding a profit of 200s. to 300s. per month, and apparently would continue to do so for the next 12 months, from the discoveries already made, and any further discovery, such as a good lode east of the cross-course in the 50 ft. level, would almost certainly, would immediately increase the profits; therefore, under the circumstances, he would not oppose the dividend.

Mr. POWELL considered their prospects very encouraging, and they would find Capt. Richards' report, that the country to the west was considered highly important by him, and they had there a considerable extent of ground comparatively untouched. By making the dividend payable in August, he thought no objection could be raised as it would leave them 1600s. in hand after paying it.

The resolution declaring the dividend was then carried, with two dissentients. The committee were re-elected, and votes of thanks having been given to them for their past services, the Chairman declared the business of the meeting terminated.

A special general meeting, for the purpose of considering the appointment of a competent person to the vacant office of secretary, was immediately afterwards held at the London Tavern, on Monday, Mr. Wm. OKE in the chair.

Mr. JOSEPH having explained to the satisfaction of the shareholders the unavoidable difficulties which had caused his temporary absence from the

driving the lode was never seen without good stones of copper ore, and in the driving of some fathoms we have met with some rich bunches of yellow copper ore of good quality. Stones of copper have been broken in this driving weighing upwards of 120 lbs. Such a lode, at so shallow a depth, is rarely to be met with in the two counties. Large stones of copper are now to be seen in the bottom of this level, and they are dipping towards the shaft; consequently, as the shaft deepens under the 40, I have every reason to believe our labours will be crowned with success; and I do not scruple to say that in my opinion it is highly probable this lode can fall at a deeper point to turn out thousands of tons of rich copper ore. We are now about 40 fathoms deep in Karkes's shaft, and the lode is from 5 to 6 ft. wide, and has continued its size from the surface. You will have seen by my last week's report, that this lode has considerably improved within the last ten days, and is composed of floor-spar, crystallised iron felpar, mudiid, and large spots of grey copper ore. In fact, the lode in the bottom of the shaft is spotted throughout with grey copper ore. The water issuing from the lode is so charged with copper that within a few hours the miners' tools are quite corroded with copper, what the miners term "greens." It is the opinion of all who have visited the Great Tregune Mine that it will exceed the appearance of any lode opened in the district, and it only requires the sinking of the shaft to a deeper point to reach a rich mass of copper ore. I cannot speak in too high terms of this mine, and if I write the facts, I must tell you I cannot, wherever I go, see a more safe speculation in the two counties.—JOHN SPARGO.

The balance-sheet showed the following statement of accounts:—

Balance at bankers on Feb. 1 last	£123 8 3
Shares lost, and paid on to this day	811 0 5
Mine cost, from Feb. 1 last to July 23, 1856	716 11 0
Balance at bankers	£168 17 3
Shares taken and in course of payment	578 0 0
Total balance in favour of mine	£744 17 3

The CHAIRMAN, in moving the adoption of the report, said it might strike some of the shareholders that it was not a very favourable one, after the flattering accounts they had previously had laid before them. The directors were ready to admit that their former reports, although they believed the statements contained in them were perfectly warranted at the time, from the appearance of the mine, and the information they received, were not altogether, up to the present moment, borne out; for unexpected delays had taken place, as all of them knew very frequently did take place in mining operations, in which, in fact, it was impossible to foretell the results that might be forthcoming. The directors had, therefore, on this occasion refrained from giving the shareholders so strong a report as the existing condition of the mine would justify, and they thought it better to simply lay the facts before them, so that they might judge for themselves. The directors felt that the mine had assumed such a position that it could run along, and that it did not require any puffing. The board were most anxious to afford the shareholders every information in reference to the undertaking, so that they might have the same means as the directors themselves of coming to a conclusion respecting its value. He thought that the report of Capt. Spargo did not read less favourable than those he (Capt. Spargo) had already laid before them. Capt. Spargo was present, and would be happy to answer any questions the proprietors might think proper to put to him. The travelling expenses and banker's commission had amounted to £22, and this included the expenses incurred by the secretary during three visits he had made to the mine, as well as the visit of Mr. Hobler. It was to be borne in mind that the cheapest mode of conveyance to and from the mine would cost something over 8d. The directors had found it better and more economical to send a gentleman down to the mine occasionally than to have an established agent on the mine.

In answer to a question from a proprietor, the CHAIRMAN said that there were 520 shares in reserve. These would give the company another 1000l., and the directors thought that with such reserve there was ample money to fully develop the mine.

A PROPRIETOR enquired the amount of liabilities?

The CHAIRMAN: As far as it can be possibly ascertained, it is about 1860l., (or say) in round numbers, 2000l., in addition to the daily working of the mine.

A PROPRIETOR: And we have, you say, 520 shares in reserve in case of need?

The CHAIRMAN said, precisely so. He might observe that their liabilities, which some time ago were considerable, had now been reduced to what might be almost termed a nominal sum (cheers); and if the shareholders thought it imprudent to carry on the mine any longer, they could abandon it, and have a balance at the bankers; but he did not think he should vote for such a measure himself.

The report and the statement of accounts were, upon the motion of the Chairman, unanimously adopted, and the discussion then took place, during which great confidence was expressed in the ultimate success of the undertaking.

A cordial vote of thanks to the Chairman and directors closed the proceedings.

CHARLES SANDERSON'S PROCESS FOR REFINING AND IMPROVING THE MANUFACTURE OF IRON.

The object of refining iron is to deprive it of the deleterious matter it may contain, and also a portion of its carbon. To effect this, the usual plan is to melt pig-iron upon coke, with the addition of a strong blast, the oxygen of which acting upon the fluid iron which is mixed with the various alloys, oxidises them, and during the time necessary to decarbonise the metal a quantity of slag or cinder is formed, containing from 60 to 70 per cent. of iron, thus causing a great waste of metal, varying from 2 to 4 tons per ton. Besides this loss, the metal so produced is not uniform in quality, sometimes being too much blown, and at other times too little, thus affording no means of obtaining a regular quality of malleable iron. Coke is used as a fuel, which is expensive, and the necessity of using a strong blast increases materially the cost of production. The objects of this process are—

1. To reduce the loss of metal, and to use coal as fuel instead of coke.
2. To effect a uniform decarbonisation of the pig-iron without the aid of blast.
3. To use a chemical re-agent capable of giving out oxygen during its decomposition, which taking up and uniting with the carbon, evolved from the metal produces carbonic oxide gas, which acting upon the earthy compounds contained in the pig-iron precipitates the metal contained in them.
4. To effect a greater facility, and also to produce a greater economy in the cost of manufacturing refined metal, by decarbonising it, and at the same time clearing away the unrefined or earthy matter with which pig-iron necessarily becomes mixed during its descent through the blast-furnace; and, further, to effect an economy (by using a purer metal so obtained) in the manufacture of malleable iron, causing less waste in puddling, and also in the subsequent re-heating required for producing bar, rod, or sheet-iron.

The furnace used is a common reverberatory, having a bed large enough to contain 2 to 3 tons, or even more, of fluid metal. The crude iron may be operated upon either by melting pig-iron upon the bed of this furnace, or by drawing it direct from the blast-furnace. When the metal is melted and at rest, the slag must be skimmed from the surface, and a chemical re-agent is then added, capable of disengaging oxygen during its decomposition. Carbonic acid, or carbonic oxide gases, will be produced by the decomposition of this substance, and by the union of the oxygen contained therein with the carbon contained in the fluid iron from which it is eliminated, the mass so produced being unable to re-enter the metal, either pass off in vapour, or act upon the silicates or other earthy compounds which the crude iron may contain, precipitating the metallic part, and allowing the earthy matter to follow away as slag, containing comparatively but a very small per centage of iron. Thus, by adding such chemical re-agent, which by its decomposition will evolve elements capable of combining with the carbon contained in the iron, and of producing carbonic oxide gas, which, acting upon the earthy compounds, and other deleterious matter contained in the iron, causes such deleterious substances to separate from the iron, obtaining very clean, pure, crystalline metal, capable of being manufactured into superior malleable iron.

His hundred tons of metal refined by this process is not so much as that of the blast-furnace, and also by re-melting the crude iron. In both instances the metal has been refined, the loss in metal not reaching 100 lbs. per ton upon re-melted iron, or 60 lbs. upon that operated upon in a fluid state from the blast-furnace. The malleable iron also very materially improved in quality, being entirely freed from red shortness, and when broken cold, presenting a clean, tough, elongated fibre. The loss in puddling averages 84 lbs. per ton, taken upon a furnace working 12 days; and a proportionate waste is experienced in the mill furnaces, according to the kind or size of iron required. For producing a variety of castings, it has also been found very useful, giving them greater strength, arising from the discharge of the earthy matter contained in the pig, and bringing the metallic particles in close contact.

[Some remarks on this invention appear in another column.]

IRON TRAMWAYS FOR COMMON ROADS.—Mr. B. H. Babbage read a paper before the Adelaide Philosophical Society, on a new adaptation of iron tramways to common roads. The author, after having given some interesting information on the subject, stated that he proposed to lay down upon such frequented roads as would require under existing circumstances to be "metalled," a wrought-iron tramway, having a sufficient surface to enable all ordinary vehicles to use it, with a slight guiding flange, and in keeping a vehicle on the tramway, but not so high as to prevent the wheel readily crossing it, to avoid clogging vehicle, or passing a slow coach. The tramway consists of two longitudinal plates of wrought-iron, varying from 1/2 in. to 1 1/2 in. in thickness, according to the amount of traffic, and having on each side of them a low rounded flange of iron, about 1 inch wide and 3/4 of an inch in height. In the centre of the underside of each plate is a low rounded flange, of 1 inch depth and 1 inch breadth, to strengthen the middle of the track where the greatest amount of work will take place. The ends of the plates are cut perfectly square, and rest upon wrought-iron saddles, 1 ft. 4 in. long and 1/2 in. thick, to which they are riveted with 1 inch rivets, put in whilst red hot. At each saddle there is an iron bar made of angle-iron, the horizontal flange 3 in. wide and the perpendicular one 1 in. deep, both being 1/2 inch thick. This tie-bar is bent in the centre, so that it may be completely covered by the broken stone with which the centre of the roadway would usually be ballasted. Each end of the tie-bar is securely riveted to the saddles and plates by two rivets. A notch is cut in the upper flange of the ties, to receive the central web of the saddles, which are made to fit exactly to the web on the underside of the rails. The weight of the yard run would be under ordinary circumstances 20 tons, which, calculating the iron at 122 per ton, would be about 14. 14s. 3d.; add for rivets, 2 1/2s., at 1/2 lb. per cwt., 3d.; rivetting, ledging, and packing, 2s. 6d.; for ballasting, ballasting, and other expenses, 8s., making in round numbers, 4000l. per mile. If the thickness of the iron plates were reduced to 1 inch, the total expense would not exceed 3000l. per mile; whilst the maintenance would cost considerably less than an ordinary metalled road.

DUST IN RAILROAD CARS.—The New York Central Railway has nearly completed arrangements intended to obviate the inconveniences occasioned by the dust, which will, in spite of closed doors and windows, manage to intrude itself upon travellers inside of the rail, and to extend tarpaulins over the open space between each car. Advantage is also gained in deadening the sound of the wheels.

TUBULAR BOILER.—Mr. O'Regan has invented a new tubular boiler for marine-engines, the novelty of which consists in the tubes being placed vertically, and filled with water. The furnace occupies the same position as in the common boiler, but the flame passes from the furnace to that portion of the tube in which the vertical tubes are placed, and these are so arranged as to check the current of heat, while a large area is left for radiation. By these means is secured a two-fold mechanical distribution; first, of the water to be heated; and, secondly, of the heat by which steam is generated. The tubes, being constantly filled with water, are protected against heat, and will keep themselves free by the action of the boiling water, which must pass through them.—*Liverpool Advertiser.*

THE CHANCELLORSVILLE FREEHOLD GOLD MINING COMPANY.

The Directors of the Chancellorsville Gold Mining Company at length find themselves in a position to make a statement to their shareholders, on their own past proceedings, and on the present position and future prospects of the company.

After having encountered and overcome great difficulties, they are happy in being able to announce that they have arrived at complete success. The question of quartz reduction has lately assumed a great importance. Of the vast importations of gold into this country, the portion which shows a progressive increase is that which comes from the quartz; but the reduction is still effected with great difficulty and expense, and at a considerable waste of the precious metal. One of the problems of the time is to unlock the treasures which lie undeveloped in quartz formations in various parts of the world, and to make them available for the increase of the general stock of gold. The directors of this company believe that they do not arrogate too much to themselves, when they express their conviction that they have succeeded in removing many of the obstacles that stood in the way of a solution of that problem.

ORIGIN AND OBJECTS OF THE COMPANY—NATURE OF THE PROPERTY.

This company was formed about three years since for the purchase of the Grasty Estate, in Orange county, Virginia, and for the extraction of gold from the valuable quartz with which that estate abounds. At the outset the directors dispatched to Virginia, Mr. W. T. Henwood, F.R.S., F.G.S., &c., author of "The Metalliferous Deposits of Cornwall and Devon;" a mining engineer of high character. Mr. Henwood was formerly Her Majesty's assay master and supervisor of tin in the Royal Duchy of Cornwall, and secretary of the Royal Geological Society of Cornwall. He was subsequently chief commissioner of the Imperial Brazilian Mining Assam in Brazil, and more recently he was employed on a special survey mission by the Honourable East India Company. These credentials sufficiently establish the fitness of Mr. Henwood for the duty he was appointed to perform.

MR. HENWOOD'S REPORT ON THE ESTATE AND MINE.

After two visits, and a careful survey of the property, Mr. Henwood made a report which was printed at the time. He there stated the following particulars:— "The Grasty Estate is situated in Orange County, Virginia, about 23 miles west of Fredericksburg, on the Rappahannock. It is bounded on the west by the Plank road, and for some distance on the north by the old turnpike road between Fredericksburg and Orange Courthouse, which will be shortly connected by a line of railway in course of construction, and will pass within half a mile of the western limit of the property. Both these places now communicate with the Potomac by rail, the former at Aquia Creek, the latter at Alexandria, and Alexandria is to be shortly connected with the great lines of intercourse between Washington and the northern, eastern, and western parts of the Union. The property, can, therefore, scarcely be exceeded in facility of communication, as well with the interior, as with the outside world. The greatest length of the estate is about a mile and a half from east to west, and its width is perhaps half a mile from about north to south. The boundary, however, is irregular, and much indented; its surface is gently undulating, the difference between the elevation of the highest and lowest grounds probably little, if at all, exceeding 100 ft.

The area is 439 acres, of which 100 acres, or thereabouts, are cleared and partially cultivated. About 200 acres are covered with a heavy growth of magnificent oak and other valuable trees, and the remainder bears stunted pine and brushwood, which serve for fuel. Near the dwelling-house there is a small marshy dell, and in the western part of the estate several depressions have each a rill. These unite within the boundary of the property, and their stream, although scarcely enough for clearing ore by the ordinary washing processes, is ample for the supply of amalgamating apparatus.

There is a very good dwelling house, a tolerable one of smaller size, nine cottages, smiths and carpenters' shop, store house, barn, stable, and several small out-houses." Referring to the auriferous formation of rocks on the estate, Mr. Henwood added:—

"The rock is of a talcose slate, sometimes very closely resembling clay-slate. It is generally of a light white or very pale blue, and in some places, and light buff in others; but many portions are deep red, occasionally passing into brown, and which is not uncommon in other auriferous districts. The structure is, on the whole, thick lamellar. The strike of the cleavage planes is about 35° E. of N. and W. of S. (magnetic), and their dip from the horizon is 70° to 85° towards the N.W.

Masses of potstone appear at intervals, and seem to range parallel to the lamination of the slate rock. They probably form the continuation of a similar formation, which is observed in a like position beyond the limits of the property eastward.

Just within the belt of forest which covers the northern boundary of the estate, a large range of quartz rock is to be seen, and in the same direction with the strike of the potstone and of the schistose rocks. No operations have ever been instituted on it, but if other parts of the estate are wrought, I think this ought not to be passed without notice.

At the north-western fence of the cleared land enormous blocks of quartz are abundantly scattered over the surface, in a line coincident with the range of the rock formations; and still farther within the enclosure, southward, two other parallel ranges of similar stones are still more plentifully traced. Although we nowhere see the parent rock of these surface blocks, there is, I think, little or no doubt but that they are the vicinity of parallel quartzose deposits, to which further attention should be directed.

Still south, on the elevated ground, about 200 fms. north-west of the house, an enormous quartz formation crops out, and may be traced in the same direction with the others for perhaps 100 fms. in length. Large masses of the same rock also appear *in situ* at intervals on the same line of bearing through the length of the estate, but separated here and there by copse and cultivated land. As its junction with the talcose is not visible, it is impossible to ascertain the exact breadth; a width of from 20 to 30 ft. is, however, exposed, and broken stones of it cover the surface for double that space. It is from this formation that the shales of gold your possession was obtained. At 150 fms. from the western boundary of the estate, within a fine tract of virgin forest of great beauty, there is a similar quartzose formation, containing earthy brown iron, and small pieces of talcose slate, which has considerable resemblance to the formation formerly wrought, whence your samples of ore were taken. Of the propriety of giving this part of the property more examination than it has yet been subjected to I think no doubt can be entertained.

About 100 fms. still southward, near the marshy dell already mentioned, and immediately in front of the best dwelling, another large quartzose deposit crosses the southern boundary of the estate, for perhaps 150 fms. in length. It is not so accurately observed, but in position it forms to the lamination of the adjoining talcose-slate. The silicious matter is more or less mixed with portions of slate, and it encloses some iron pyrites and copper pyrites, but these are not abundant; earthy brown iron is, however, plentiful in many parts of it.

It has been partially wrought for about 100 fms. in length, but most of the shafts have been sunk only about 6 fathoms in depth, and the deepest of them is only about 15 fathoms.

The quantity of rock at the surface is about 500 or 600 tons. It was from the ferruginous quartz that the samples you have had assayed were obtained, and during my last visit to the property I also made some examinations of the ore, which, defective as they necessarily were from the rudeness of the implements I found on the spot, afforded gold in ample remunerative proportion to the quantity of stone submitted to experiment.

This deposit is so little seen *in situ* that it is impossible to estimate the quantity of ore contained in any given extent of ground, the samples assayed, however, leave no doubt that it deserves more examination than it has yet received.

These extensive formations of quartz coincide in position with the lamination of the rock, of which, in fact, they doubtless form members, and they differ from the schistose varieties only in being more silicious, and in exhibiting fewer traces of siliceous cleavage."

As the foregoing report was made more than two years ago, on information obtained some months before, it may be a satisfaction to the shareholders to have a confirmation of them in general terms, made on June 22 of the present year, by an eye witness, the company's own agent, a gentleman of the highest character and respectability, who was dispatched to Virginia on a special mission to make arrangements for the practical working of the mine, and the transmission of the ore to this country. This gentleman says—

"I made an examination of the property, and find that there is an endless supply of quartz, with indications of great richness. The master vein, which runs upwards of a mile through the centre of the estate, remains untouched, and the surface indications (rich gossan, and dark, reddish, brown quartz) lead me to suppose that it is much richer than any which has yet been tried. The width of the vein averages about 40 yards.

There are several other veins, running almost parallel to the one alluded to, but not of the same width or length. There is an abundant supply of timber, principally oak, which will be of great service in the construction of the mine, and the road to Fredericksburg will run by the side of the estate, which will be of great service, greatly facilitate the communications and render the expenses much lighter."

Thus, the original statements of promoters of the company and the engineer are fully borne out, and the value of the property remains unimpaired at the present hour.

IMPORTATION OF ORE FOR REDUCTION.

Between the original formation of the company and the early part of the last year there was a period of comparative inactivity. Nothing but the confidence inspired by the report of Mr. Henwood, and the oral statements of other gentlemen who had visited the property, and the results of the assays made by Messrs. Johnson and Matthey, Mr. Mitchell, Mr. Claudet, Dr. Ryan, Mr. Wright, Mr. Edwin Smith, Dr. Collier, and others, could have sustained the directors against the discouragements and disappointments they encountered. All undertakings of the kind gradually fell into disrepute. Changes also took place in the constitution of the company itself, which was at one time almost threatened with extinction; but the remaining directors and some of the officers adhered to its fortune under all vicissitudes, until they trust they will have earned the acknowledgements of the shareholders for their faith and perseverance.

All the efforts of this and other companies to effect, on their several mines, the extraction of the gold from the ore having at that date proved unsatisfactory, the directors of the Chancellorsville Company determined, about a year and a half ago, to bring over to this country a considerable quantity of the ore, so that they might have, under their own eyes and those of their shareholders, the benefit of the best scientific and practical knowledge on the subject of quartz reduction. Inevitable obstructions and delays retarded for a considerable time the accomplishment of this resolution; so that it was not until the close of last year that the directors received their first consignment. Shortly after they received another, a smaller consignment. Both were advertised at the same time.

With confidence unimpaired in the value of the mine, the directors now flattered themselves that their task would in future be comparatively easy. Those only who have had to encounter the difficulties surrounding the subject can comprehend why so much delay, nearly nine months, has nevertheless occurred. The ore of this mine contains very little visible gold; and the precious metals which abound in it exists in particles so fine as to require the most elaborate treatment. So much time having elapsed since the first assays already referred to, the directors considered it desirable at the outset to ascertain by the same means the value of the ore. They were well aware that their greatest difficulty would be to obtain machines capable of crushing and amalgamating or otherwise extracting the gold, such as could be afforded from the tests of the assays.

RESULTS OF THE TESTS.

The directors invited the co-operation of scientific and practical men who had studied the subject. The results of their experiments were very unequal; some of them encouraging the most extravagant ideas of profits, but few being below such a yield as would give a dividend, if the undertaking were rationally regarded as a fair commercial enterprise. It would answer no purpose to embody in this report the certificates in detail of the gentlemen who made the different experiments; but some notion may be formed of the uncertainty in which the directors were from 1855, to time placed, from the following examples. For instance, on November 23, 1855, Mr.

Claudet, of the assay-office, Cannon-street (who had previously tested some of the ore with the most favourable results), certified that the iron pyrites, with which the ore abounds, contain from 34 to 39 ounces of gold to the ton of pyrites, and 65 ounces of silver to the ton. At the same date Messrs. John Taylor and Sons, of Upper Ordnance Wharf, certified per Mr. Jordan that one specimen of ore out of four sent yielded 2 1/2 ounces of gold and 4 1/2 ounces of silver to the ton. Other specimens varied between half an ounce and an ounce and a quarter of gold to the ton, while of silver there was from half an ounce to three ounces. On Jan. 4 last, Mr. Ansell forwarded to the directors an elaborate report of a series of experiments made on these ores at the Panopticon, in Leicester-square, by the chlorine process, the general result of which yielded rather more than two ounces and a half of gold per ton. To test that process, Mr. Ansell also tried the ore by assay and amalgamation, the results being nearly the same. A subsequent assay gave by amalgamation about three ounces and three quarters of gold, and by assay rather more gold and five ounces of silver to the ton. Mr. T. H. Henry, F.R.S., made on Feb. 14 of this year a report on four specimens, one of which yielded nearly 15 ounces of gold.

These are a few amongst many results of experiments made by order of the directors on the ore. They had the additional satisfaction of finding, from the report of practical chemists, that the mudiid with which the ore abounds is capable of yielding 80 oz. of silver to the ton. The directors are therefore of opinion that the ore is valuable, because they confirm the original estimate of the value of the ore, and partly to account for the delay in their own operations.

At a very early date they came to the conclusion that they could calculate upon a moderate average yield of gold and silver, and at a small cost of reduction, sufficient to enable them to pay a highly remunerative dividend. They also came to the conclusion, after hearing the opinions of various competent persons, that the mode of reduction most to be relied on and most suited to the ore was that of calcining, fine grinding, and amalgamation.

The real difficulty of the directors was to procure machines capable of performing this work at length they found themselves in a position to operate upon a sufficient bulk of ore to enable them to estimate an average. With the principle of the machine used they had long been acquainted, but until this time they had not been able to obtain the means of working the large machine constructed on that principle. They availed themselves of an opportunity afforded by Messrs. Symonds and Fell, of Saffordham-wharf Smelting Works, Millwall, to calcine, crush, grind, and amalgamate a sufficient quantity of the ore to yield a fair average of that which was first consigned to this country, but which, as will be afterwards explained, is by no means a good sample of the bulk of the ore on the estate. The result of that trial was such a yield of gold, of the finest quality, as to place the success of the undertaking beyond a doubt, provided that the expenses of raising, importing, and reduction, were such as, from the various estimates the directors had received, they were entitled to expect. This trial was made publicly, and was attended from time to time by gentlemen interested in the question, from a scientific point of view, and the whole process, with the results, was made the subjects of certificates by Messrs. Symonds and Fell, the proprietors of the works, and of Mr. Harris, under whose immediate direction the reduction took place. The certificates are subjoined:—

"Millwall Grinding and Crushing Mills, Smelting and Assay Works, Saffordham-wharf, Millwall,

London, May 3, 1856.—In answer to your enquiry, we beg to state that the Chancellorsville ore recd at our works, as above, contained on an average about 1 oz. 15 dwts. of gold per ton. W. S. TROTTER, Esq. For Symonds, Fell, and Ansell.

"I hereby certify that I operated upon six tons of the Chancellorsville ore at the reduction works of Messrs. Symonds, Fell, and Company, Millwall, and obtained therefrom 60 dwts. of gold, or one ounce and 12 dwts. of gold per ton. A larger result would have been obtained had an amalgamator been used to have caught the fine gold which passed off with the water. Subsequent trials, with improved machinery, have proved that 95 per cent. of gold in the ore is obtained. (Signed) JOSIAH HARRIS, July 24, 1856.

As the directors desire to give every opportunity for the trial of other machines, they have made arrangements with the proprietors of the machine invented and patented by S. T. Jones, Esq., for a test of its capabilities. This was made also in the presence of many persons, on the premises of Mr. Marshall, the engineer, in Bishopsgate-street. The result was highly satisfactory, both as regards the powers of the machine, and the gold-bearing quality of the quartz. The directors considered that it would be more satisfactory to the shareholders if this process were carried on under the superintendence of some gentleman of high scientific reputation, but entirely unconnected with the company. They accordingly made arrangements for this purpose with T. H. Henry, Esq., F.R.S., of No. 44, Lincoln's Inn-fields. The following is that gentleman's report, both on the merits of the machine and on the yield of the ore:—

"July 16, 1856.—DEAR SIR: I attended according to your desire to witness the operations of the auriferous quartz of the Chancellorsville Mining Company with Jones's machine, and will now briefly state the results.

Half a ton of the quartz, previously calcined, was passed through the machine, slowly, however, for want of sufficient power to work it more rapidly. I assisted in straining and passing the mercury from the pans and from the amalgamator, and having brought the amalgams here, extracted the gold from them. They yielded a bar weighing 235 grains.

Mr. Harris afterwards brought me the residue of the distillation of the mercury, and I obtained from this 132 grains of gold (containing a little silver)—total 355 grs., or at the rate of 1 1/2 oz. of gold per ton.

I then carefully assayed the tailings, working on a large quantity. They contained 1 dw. 13 grains of gold per ton. This is rather more than 4 per cent. of the total quantity of gold. Upwards of 95 per cent. had, therefore, been extracted.

These results are all in favour of the value of the quartz; the efficacy of the machine, which certainly ground the quartz to an exceedingly uniform fine powder; and also of the amalgamator, in the mercury of which the larger portion of the gold was found. I think, however, that the size of the machine should be considerably reduced for the sake of economy.

The calculation of this quartz previous to submitting it to amalgamation appears to be necessary, as the gold seems chiefly associated with the iron pyrites or mudiid disseminated throughout the quartz; a sample of the mudiid separated from the quartz assayed yielded upwards of 7 oz. of gold per ton.—I remain, Dear Sir, yours very faithfully, (Signed) T. H. HENRY, F.R.S.

As all previous attempts made in this country to extract gold from quartz a considerable portion of the precious metal was lost in what is technically called the tailings, the directors availed themselves of the magnetic amalgamator alluded to by Mr. Henry (the patented invention of Messrs. Jones and Harris), the value of which was tested by the fact that only 4 per cent. of the whole amount of gold was found to have escaped.

PREMISES FOR THE WORKS OF THE COMPANY.

The directors having satisfied themselves of the existence of the precious metals in the ore, and of the extent to which they could be extracted, they determined to take premises for the purpose of carrying out the future operations of the company. After much consideration, and although offers had been made to contract for the reduction of the future consignments at a moderate fixed price per ton, or for the purchase of the ore in bulk at a rate calculated on what the directors believe to be the minimum yield of gold, they decided that their operations could be carried on far more regularly and successfully in works under their own control, at or near Liverpool, the chief entrepot of the American trade. They were mainly influenced by a calculation of the lower price of coal in Lancashire and the certainty of a regular weekly supply of coal. After examining many eligible sites, they finally chose some abandoned salt-works at Frodsham-bridge, in Cheshire. These premises are remarkably well adapted for the purpose. They cover an area of four acres, with buildings and plants available for the purposes of the company. There is excellent wharfage on the river, with facilities of cheap water carriage from the vessel's side in the Liverpool Docks, or for vessels of smaller tonnage chartered wholly by the company, coming direct to Frodsham-bridge. They are bounded by the Lancashire and Cheshire Railway, to which the company have a right to make a short tram-road for the conveyance of coal, &c., and would have a right to use the directors' premises for the purpose of the same. The cost of rental of £150 per annum, with a right of purchase of the freehold for £2000. They have entered on possession since June 24, and the necessary constructions have been planned by the mining engineer of the company. The requisite alterations and additions are being proceeded with, and they will be completed before the first of the regular consignments arrive from New York. The directors have purchased the stamps necessary for the crushing of the ore, which have been forwarded to the premises. They have also given orders for the immediate construction of grinding machines, of Jones's invention, which are required for the reduction of about 250 tons of quartz per week, which will be as much as can, for some months to come, be conveniently brought over from the mine. They have also ordered the steam-engines and other requisite machinery, which will be executed in time for the arrival of the ore.

ARRANGEMENTS FOR WORKING THE MINE AND SUPPLYING THE QUARTZ.

When the directors had ascertained the possibility of extracting the gold at a remunerative cost, they deemed it desirable to confirm arrangements already made, for the working of the mine, and the regular transmission of the ore to this country. For this purpose they were fortunate enough to secure the services of a gentleman, Mr. B. B. Thomas, who had already had much experience in America. That gentleman they dispatched about two months since to the mine, armed with full powers to make all the arrangements necessary. He was instructed to report upon the actual condition of the estate, the cost of raising, of conveyance from the mine to Fredericksburg, from Fredericksburg to New York, and from New York to Liverpool. His experience and energy of character enabled him to effect all these objects in a much shorter time, and even with more success, than the directors had anticipated. The result of his mission sets at rest the question of cost, and decides it in a manner most favourable to the undertaking. Mr. Thomas left this country on the 17th of May last, and on the 22nd of June he was enabled to transmit to the secretary of the company the letter from which an extract has already been given.

Having fulfilled the other objects of his mission, Mr. Thomas deemed it expedient to return immediately to England, that he might personally explain the details of his arrangements. The following is his report:—

"To the Directors of the Chancellorsville Freehold Gold Mining Company.

"London, July 18, 1856.—GENTLEMEN: In fulfilment of the mission with which you have entrusted me, I have visited your mine, and have made myself acquainted with all the circumstances, a knowledge of which is necessary to enable you to work it. Your instructions having left me a considerable discretion, I thought it right to devote my attention to the two most important considerations connected with the subject—viz., the value and working capabilities of the mine (or, as I should rather describe it, the estate with mines upon it), and the means by which the ore can be transmitted to this country at the smallest expense. The estate is 24 miles from Fredericksburg, which is a good shipping port, at present the access to that port is by an excellent plank road, on which the property abuts. A railway from Orange to Fredericksburg is in course of formation, which passes within a quarter of a mile of the property, and which will be completed in a year. The supplies of quartz are inexhaustible, there being several veins running through the estate, the principal of which is traceable for more than a mile and a half, with an average width of 25 yards. In some parts the width is full 40 yards. This vein shows, throughout, a richness which cannot be mistaken. The other veins run almost parallel, but do not give such decided surface indications of richness. Their course is not so clearly defined, as they do not crop out to the same extent as the main vein, but there is sufficient quartz visible to make it a certainty that the supply will be more than sufficient to meet the demand for many years; indeed, as I said before, inexhaustible. Labour can be easily procured at \$150, or 30l., a year, including keep. Any number of labourers can be simultaneously employed at various points, the ore being rich near the surface, and the great vein very long in proportion to its width. There are also six shafts already sunk in a parallel vein, which are from 60 to 100 feet deep. About 600 tons of ore are at present lying on the surface, ready for immediate transmission to England. Thinking that the company would desire to know the value of a better sample, I have

than that already sent, I arranged for the immediate shipment of 50 tons of this ore, which is now on its way to this country. As I have already stated, a railroad is in course of construction, which passes within a quarter of a mile of the estate, going direct to Frederickburg. This railroad will be completed in a year. When it is opened, the cost of transmitting the ore will be about 2s. or 2s. 6d. per ton. For the present it must be sent by the plank road, at a larger expense. Hitherto the ore of the company has been sent by coasting vessels to New York from Frederickburg, and from New York to England. The result of my enquiries was to satisfy me that, at a future time, it might be an economy to the company to charter vessels of about 150 or 200 tons, which could ship the ore at Frederickburg, and land it at Frodsham-bridge, on the wharf of the company, thus avoiding the expense attendant on transshipment. At present the cost of freight from Frederickburg to New York is \$3 per ton. The cost from New York to England is \$2½ per ton, or with commission fees at New York \$3. At present it is necessary to adopt the New York route. I arranged with Mr. Phillips, the shipping agent at Frederickburg, to receive all ore forwarded from the estate, and to ship it to New York. At New York, in like manner, I arranged with Mr. Leland, of the European and Express Agency, to re-ship to Liverpool the ore so received from Frederickburg. In conclusion, gentlemen, I have only to say that the result of my mission has been to convince me of the value and capabilities of the mines upon your property. I am, gentlemen, your obedient servant.

(Signed) "ROBERT B. THOMAS."

"There is on the estate about 200 acres of fine timber, principally oak; also 100 acres of pine."

PROSPECTS AND ESTIMATED PROFITS OF THE UNDERTAKING.

It will have been seen from the foregoing statement that some weeks must necessarily elapse before the operations of the company will be in full working order. But the directors now know enough of the conditions under which they will be carried on to be able to form a definite estimate of the future.

The ore hitherto received in this country was sent indiscriminately by the parties on the spot. Nevertheless, from this ore, which is inferior to the average production of the estate, the results already rendered have been obtained. The directors prefer to base their calculations upon the smallest ascertained yield in bulk, rather than upon that which they sincerely believe will be ultimately produced. They take, therefore, as their ground work, a yield of 1½ oz. of gold to the ton (vide Mr. Henry's report). At present they do not add any estimate of profit from the silver abounding in the ore, the arrangements for its separate extraction not being yet perfected.

The machinery already in the company's possession, or in course of construction, will reduce 246 tons per week, and the extent of the premises at Frodsham affords ample scope for such increased operations as may be determined upon. The company propose to bring over the ore at convenient seasons, and to store it up at Frodsham, so as to maintain a continuous supply.

The position and conformation of the veins of quartz are such as to permit the employment of any number of men, distributed at different points. No heavy machinery is required for this purpose, as all the necessary work can be done by manual labour, under the personal superintendence of Capt. Hoskins, the well-known mining captain, who has had a large experience in mining operations, and with whom arrangements have been made to leave this country, with a staff of miners, before the close of next week.

The directors have now ascertained that the expenses of raising, land and water carriage, and reduction at Frodsham, will be under \$3 per ton.

The following, therefore, will be the result at the before-mentioned rate of 246 tons per week—

246 tons per week amount to 12,792 tons per annum.
12,792 tons, yielding \$3 10s. per ton..... (gross returns) \$70,356
(Taking the price of gold at \$3 15s. only. But this gold fetches a higher price (\$4 4s.) on account of its purity).
Cost of reducing 12,792 tons, at \$3 per ton..... 38,376

Net annual profit on the ore..... \$31,980

Thus it is shown that the operations of the company will yield a net annual profit of more than \$30 per cent. on the whole capital of \$50,000, after paying the royalty, and the staff expenses in England and on the estate.

This estimate, however, assumes that the yield shall be only 1½ oz. to the ton, and that the operations shall be limited to 246 tons per week. But all ascertained results tend to show that the yield will be much greater. That the calculation of quantity is very moderate, is attested by the fact that the St. John del Rey Company reduce upon the average more than 80,000 tons annually.

The directors have no desire to indulge in anticipations which might appear extravagant or delusive. They would merely remind the shareholders that they have not included the profit on the silver (the yield of which is calculated at 20 ozs. to the ton of ore, attainable at a cost of \$2 per ton, and leaving a surplus of \$3 per ton), or on the sale of the finely-ground refuse, which, in the opinion of practical men, will pay nearly all the expenses.

All possible economy has been exercised in the expenditure necessary to arrive at the foregoing results; and the directors feel assured that the operations at their works will be sufficiently advanced to enable them to make their first half-yearly statement to the shareholders before the close of the present year.

The directors are happy to be able to repeat to the shareholders that the original capital of \$50,000 is more than sufficient for all the requirements of the undertaking.

By order, W. S. TROTTER, Sec.

1, Great Winchester-street, July 26, 1856.

Copies of this statement may be obtained at the office of the company.

TREBURGETT CROWAN CONSOLIDATED COPPER MINING COMPANY (LIMITED BY ACT OF PARLIAMENT). SITUATE IN THE PARISH OF CROWAN, THE BEST MINING DISTRICT IN CORNWALL.

Capital \$50,000, in 5000 shares of \$10 each.—Deposit \$5 per share. The old shares of \$1 each in the Treburgett Consols Mine will be received in exchange, and in payment of the deposit of \$5 per share.

OFFICES.—No. 9, AUSTINFRIARS, LONDON.

The Treburgett Crowan Consolidated Copper Mining Company has been formed to work three extensive and valuable mines, called Wheal Curtis, Wheal Strawberry, and Wheal Dumping, in the parish of Crowan, in the county of Cornwall, in addition to the Treburgett "Sett."

These mines are situated in one of the richest copper strata in the county, and are upwards of 1200 fms. in length, and 400 fms. in breadth on the course of the lodes: they adjoin and run parallel to the celebrated Wheal Abraham, Oatlands, and Crover sets, from whence immense quantities of ore have been raised, and great profits realised.

The stratum is clay-slate, of the same character as that of Wheal Abraham, being on the same geological formation. Wheal Abraham was found rich in ore to full 200 fms. deep, and the opinion of the experienced mining captains, by whom the Crowan Mines have been inspected and reported upon, is that they will be found equally productive to a similar depth.

There are six well defined and known lodes in the sets. Wheal Curtis lode has been worked to a depth of 47 fms. below the adit level, and upwards of £10,000 worth of ore has been raised. The Wheal Dumping lode, which is 80 fms. south of Wheal Curtis, is sunk 37 fms. below the adit, and a level therefrom has been driven 40 fms. east of the shaft, through excellent tribute ground. This lode presents the certainty of proving a rich mine. Another lode intersects the Curtis and Dumping lodes, and is seen about 4 fms. from the surface, where it presents a very fine gossan. There is likewise another lode south of Wheal Curtis, called the Dym lode, which has a promising appearance, and produces a splendid gossan. The remaining two lodes have not been opened upon, though their position and character have been ascertained.

The capital of the company is \$50,000, divided into 5000 shares of \$10 each, whereupon a deposit of \$5 per share is to be paid, and the remainder called for as required for the mining operations, by instalments not exceeding 2s. 6d. per share, and that at intervals of not less than three months.

The company will be under the management of a board of directors, each of whom must be the holder of not less than 25 shares during his term of office. Periodical statements of accounts and reports will be submitted to the shareholders, and meetings of the proprietary duly convened, according to the Deed of Settlement constituted under the provisions of the Limited Liability Act, by which the liability of the shareholders will be strictly limited to the amount of their shares.

Abstract of prospectus and reports may be obtained at the offices of the company.

WILLIAM EVANS, Sec.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Treburgett Crowan Consolidated Copper Mining Company (Limited).

GENTLEMEN,—I request you to allot me shares in your company, of £10 each, on which I enclose you a deposit of £1 per share, and hereby undertake to accept such shares, or any less number, and to pay the further sum of £4 per share on allotment, and the further calls as required, up to £10 per share, subject to the provisions of the Act of Parliament which limits liability to shareholders.

I am, Gentlemen, your obedient servant,

Name in full.....
Residence.....
Profession or business.....

Reference.....

NEW PATENT ACT, 1852.—MR. CAMPIN, having advocated Patent Law Reform before the Government and Legislature, and in the pages of the Mining Journal, &c., is now READY TO ADVISE AND ASSIST INVENTORS IN OBTAINING PATENTS, &c., under the NEW ACT.

The Circular of Information, gratis, on application to the Patent Office and Designs Registry, 156, Strand.

Now complete, in 1 vol., half-bound, £2 15s.; whole bound in Morocco, £3 10s. In 3 vols., half-bound, £3 8s.

PRACTICAL TREATISE ON MINE ENGINEERING.

By G. C. GREENWELL, Colliery Viewer.

Member of the North of England Institute of Mining Engineers. The work is unique in plan and arrangement, and supplies a desideratum which has long been needed in every department of practical mining. It is illustrated with 62 plates, the greater portion of which are elaborately coloured, comprising Sectional Views of the British, Continental, and American Coal Measures; Drawings of Organic Remains; Mineral Map of the United Kingdom; Plans and Views of Dykes, Faults, &c.; Drawings of Machinery and Apparatus; Plans of Coal Workings, &c.

The Letter-press combines rudimentary information, with the most elaborate and complete practical details, and with notices of the scientific theories which bear upon the different kinds of mining. The more important coal fields of this country are fully described, and their system of working contrasted with that which prevails on the Continent. Iron ores, and the manufacture of iron; lead ores, and the manufacture of lead; copper ores, and the manufacture of copper; tin ores, and the manufacture of tin; are also considered and explained at length. The different methods of boring and working mines; the materials employed; the gases; the modes of ventilation; the lighting of mines; and the character of accidents, and means of prevention; occupy separate chapters.

London: Published at the Mining Journal office, 26, Fleet-street, London.

THE MECHANICS' MAGAZINE (published every Saturday, price 3d., stamped 4d., and in monthly parts) contains, in addition to a mass of interesting matter on scientific subjects, the SUBSTANCE OF EVERY PATENTED INVENTION, together with all other current information concerning patents.

Messrs. ROBERTSON, BROOMAN, and CO. (Editors of the Mechanics' Magazine, established in 1823) UNDERTAKE THE PROCURATION OF PATENTS for the United Kingdom and all Foreign Countries, and the transaction generally of all business relating to patents and the registration of designs.

Printed instructions supplied gratis on application.

Costs of provisional protection, £10 10s.

Mechanics' Magazine and Patent Office, 106, Fleet-street, London.

HENRY J. MORTON AND CO'S (No. 2, BASINGHALL BUILDINGS, LEEDS) PATENT WIRE ROPES, for the use of MINES, COLLIERIES, RAILWAYS, &c.; one-half the weight of hemp rope, and one-third the cost; one-third the weight of chains, and one-half the cost—in all deep mines these advantages are self-evident. References to most of the principal colliery owners in the kingdom.

GALVANISED SIGNAL CORDS AND KNOCKER LINES; will not rust or corrode, and not affected by the copper water in mines. Very strong, and not at all liable to break. Prices from 15s. per 100 yards.

PATENT ASPHALTED ROOFING FELTS, 1d. per foot.
DRY HAIR BOILER FELTS, TO SAVE COAL.
PATENT BOILER COMPOUND, for bad water.
FAIRBANK'S WEIGHING MACHINES, of all sizes.
GALVANISED IRON ROOFING AND SPOUTING.
MILNER'S FIRE-PROOF SAFES.

STOCK OF MINING AND RAILWAY STORES in Liverpool and London:—viz., OILS, GREASES, COTTON WASTE, SPUN YARN, WHITE LEAD, VARNISHES, &c.; and at very low prices.—Address, 2, Basinghall-buildings, Leeds.

SOLE AGENTS for Prof. GLUKMAN'S ELECTRIC SIGNAL for RAILWAY GUARD to ENGINE DRIVER, and also for the use of COLLIERIES and MINES. N.B. Illustrated price list on application.

MOST IMPORTANT TO COLLIERY OWNERS AND COLLIERY MANAGERS.—HENRY J. MORTON AND CO., GALVANISED IRONWORKS, No. 2, BASINGHALL BUILDINGS, LEEDS, beg to call attention to their IMPROVED SIGNAL BELL.

especially prepared to meet the requirements of the new Act for the Inspection of Coal Mines. It has met with the decided approval of many large colliery owners and managers. SIMPLE, EFFICIENT, and CHEAP. Price £1 10s. each.

BYRAN'S PATENT ANEMOMETER, for testing the ventilation, Price £3 3s. to £4 4s. each.

STEAM PRESSURE GAUGES, very strong and accurate, £2 each.

For further information, apply to H. J. MORTON AND CO., 2, Basinghall-buildings, Leeds.

FAIRBANK'S IMPROVED PATENT WEIGHING MACHINES, for the use of IRONWORKS, COLLIERIES, RAILWAYS, WAREHOUSES, &c.; and the most ACCURATE MACHINES in use, and the cheapest.

MACHINES of all sizes, from 1 cwt. to 30 tons, for RAILWAY WAGONS, CARTS, or WAGONS.—For prices and all other information, apply to HENRY J. MORTON AND CO., Galvanised Ironworks, 2, Basinghall-buildings, Leeds.

Asphalted Roofing Felt, Boiler Felt, Galvanised Iron, &c., in Stock.

CHEAP, LIGHT, AND DURABLE ROOFING, ONE PENNY PER FOOT.—HENRY J. MORTON AND CO., 2, BASINGHALL BUILDINGS, LEEDS. PATENT ASPHALTED ROOFING FELTS, for roofing sheds, contractors' cottages, ore-dressing sheds, brick and tile sheds, and all agricultural purposes.

One penny per square foot. The cheapest roofing manufactured. Stocks kept in London, Leeds, and Bristol. DRY HAIR BOILER FELTS, for saving fuel.

H. J. MORTON AND CO., 2, Basinghall-buildings, Leeds.

ADAPTED ONLY FOR PUMPING.

DONKEY ENGINES, DONKEY ENGINES, DONKEY ENGINES

—R. and J. COUPE have in STOCK a number of their IMPROVED DONKEY ENGINES, which are so suitable to the requirements of mill owners and colliery masters, sailing and steamship proprietors, bleachers and printers, farmers, &c., for feeding boilers, as a fire engine, for slacking coke, for throwing large quantities of water for miscellaneous purposes, and for the irrigation of gardens, farms, &c.

For the satisfaction of parties requiring R. and J. COUPE have fitted up one of these engines at their works (Leeds), which can be started throwing water at any hour of the day, and to which they readily call attention. Diameter of steam cylinder 4½ in., diameter of pump 3 in., delivering 3000 gallons per hour.—Drawings sent free by post on application to R. and J. COUPE, Clayton Foundry, Wigan.

PUMPING MACHINERY.—LIFTING AND FORCING PUMPS.

PATENT CENTRIFUGAL AND DOUBLE-ACTING PUMPS, DEEP WELL PUMPS, STEAM-ENGINES (portable and fixed), HYDRAULIC RAMS, WATER-WHEELS, and every description of MACHINERY, of the most approved construction, MANUFACTURED AND SUPPLIED BY GWYNNE AND CO., Hydraulic and Mechanical Engineers, Essex Wharf, Strand, London. Catalogues on application.

MINING.—PORTABLE PUMPING AND WINDING ENGINES.

—TO BE LET ON HIRE, or FOR SALE, several NEW and SECOND-HAND ENGINES, suitable for pumping, winding, or any other work, from 10-horse to 25-horse power.—Apply to Messrs. M. MOWIN and HALL, engineers, Surrey Iron-works, Blackfriars-road, where they may be seen.

IMPORTANT TO IRONMASTERS.

Now published, in One Vol., large 4to., cloth, pp. 450, 25 Plates, price 50s.

REPORTS OF EXPERIMENTS ON THE STRENGTH AND OTHER PROPERTIES OF METALS FOR CANNON.

With a Description of the Machines for Testing Metals, and of the Classification of Cannon in service.

By OFFICERS of the Ordnance Department, U.S. Army.

By Authority of the Secretary of War.

Will be forwarded by post, free of expense, on receipt of 50s.

Tribner and Co., 12, Paternoster-row, London.

BAINBRIDGE ON MINES AND MINERALS. (SECOND EDITION.)

This day is published, 8vo., 24s., cloth, a

TREATISE ON THE LAW OF MINES AND MINERALS.

By WM. BAINBRIDGE, Esq., F.G.S., of the Inner Temple, Barrister-at-Law.

Second Edition, carefully revised, and much enlarged by additional matter relating to Manorial Rights; Rights of Way and Water, and other Mining Easements; the Sale of Mines and Shares; the Construction of Leases; Cost-book and General Partnerships; Injuries from Undermining and Inundations; Barriers and Working-out of Bounds. With an Appendix of Forms and Customs, and a Glossary of English Mining Terms.

London: Butterworths, 7, Fleet-street, Her Majesty's Law Publishers.

Just published, post 8vo., price 3s. 6d.

THE MINES OF WICKLOW.

Containing a full Description of the Mining Districts, together with Geological Maps, Plates, &c.

London: Published by C. H. LAW, 131, Fleet-street; and may also be had at the Mining Journal office, 26, Fleet-street, London.

LIBRARY OF ILLUSTRATED STANDARD SCIENTIFIC WORKS.—The following volumes are now published:—

1. PROF. MÜLLER'S PRINCIPLES OF PHYSICS AND METEOROLOGY; with 530 Woodcuts, and Two Coloured Engravings. 8vo., 18s.

2. PROF. WEISBACH'S MECHANICS OF MACHINERY AND ENGINEERING. 2 vols., with 900 Woodcuts, £1 10s.

3. KNAPP, RONALDS, and RICHARDSON'S CHEMICAL TECHNOLOGY; or, Chemistry in its Applications to the Arts and Manufactures—Fuel and its applications. Vol. I., in Two Parts, most fully illustrated with 433 Engravings and Four Plates, £1 16s. (This is the Second Edition of Knapp's Technology.)

Vol. II. contains Glass, Alum, Potteries, Cements, Gypsum, &c.; with numerous Illustrations. £1 1s.

Vol. III. contains Food generally, Bread, Cheese, Tea, Coffee, Tobacco, Milk, Sugar with numerous Illustrations and Coloured Plates. £1 2s.

4. QUEKETT'S (JOHN) PRACTICAL TREATISE ON THE USE OF THE MICROSCOPE. Third Edition, with Eleven Steel and numerous Wood Engravings. 8vo., £1 1s.

5. PROF. FAU'S ANATOMY OF THE EXTERNAL FORMS OF MAN (FOR ARTISTS). Edited by B. KNOX, M.D., and an Atlas of 28 Plates 4to.; Plain, £1 4s.; Coloured, £2 2s.

6. PROF. GRAHAM'S ELEMENTS OF CHEMISTRY, with its Application in the Arts. Second Edition, with numerous Woodcuts. Vol. I., £1 1s. (Part 5 in the press.)

7. PROF. NICHOL'S ARCHITECTURE OF THE HEAVENS. Ninth Edition, with 23 Steel Plates and many Woodcuts. London, 1851. 16s.

8. MITCHELL'S (J.) MANUAL OF PRACTICAL ASSAYING; for the Use of Metallurgists, Captains of Mines, and Assayers in General. Second Edition, much enlarged, with Illustrations, &c. £1 1s.

In the press.

GAMGEE'S (J.) EXTERNAL ANATOMY OF THE HORSE.

BEKELEY'S (Rev. J.) CRYPTOGRAMIC BOTANY.

London: H. Ballière, Publisher, 219, Regent-street, London; and 290, Broadway, New York.

FOURTH EDITION.

Just published, in crown 8vo., boards, pp. 400, price 3s. 6d., by post 4s.

BRITISH MINES CONSIDERED AS A MEANS OF INVESTMENT.

By J. H. MURCHISON, Esq., F.G.S., F.S.S., &c.

FOURTH EDITION, with an APPENDIX, giving a REVIEW of the PROGRESS of BRITISH MINES, and the dividends paid, during the year 1855, with their PRESENT POSITION and PROSPECTS, &c. This edition contains full particulars of the principal Dividend and Progressive Mines in England and Wales.

Copies may be obtained at Mr. Murchison's office, 117, Bishopsgate-street Within; or at the Mining Journal office, 26, Fleet-street, London.

OPINIONS OF THE PRESS.

Mr. Murchison's new work on British Mines is attracting a great deal of attention, and is considered a very useful publication, and calculated to considerably improve the position of those who invest in mining.—Mining Journal.

This is a valuable guide to investors in mines.—Herald.

A very unpretending but useful little volume, and contains much information, which cannot fail to be interesting.—Morning Herald.

A valuable little book.—Globe.

The book will be found extremely valuable.—Observer.

A book extremely useful to the mine adventurer.—Plymouth Journal.

A most admirable compendium, both of progressive and dividend mines, full of information.—Waterford Mail.

We believe a more useful publication, or one more to be depended on, cannot be found. Information of the nature given in these pages is invaluable.—Plymouth Herald.

This is a very valuable book.—Cornwall Gazette.

To those who wish to invest capital in British mines, this work is of the first importance.—Welshman.

This is really a practical work for the capitalist.—Stockport Advertiser.

Persons desirous to invest their capital in mining speculations, will find this work very useful guide.—Warwick Advertiser.

TO MARINE ENGINEERS, SCREW SHIP COMPANIES, AND MACHINISTS GENERALLY.

THE NEW PATENT MULTIPLE ROTATIVE GEARING.

This justly admired invention contrasts with the ordinary toothed gearing, for which it is proposed as a substitute, and possesses the pre-eminent advantages of COMPACTNESS, STRENGTH, DURABILITY, FREEDOM FROM NOISE, and BACKLASH, UNIFORMITY and SMOOTHNESS OF ACTION, REDUCED FRICTION, FACILITY FOR LUBRICATION and REPAIR, and virtually WITHOUT RISK OF ACCIDENT, advantages unequalled in any other arrangement of gearing. It is proposed for all purposes where a change of speed is required, and is peculiarly applicable for screw propulsion.

The proprietors of the patent are prepared to GRANT DISTRICT AND OTHER LICENSES for the manufacture of this gearing, or to ENTER INTO CONTRACTS for the adaptation of the invention to screw steam-vessels, or other machinery, upon application to their agent, No. 3, Hanover Chambers, Buckingham-street, Adelphi, where any further particulars may be obtained, and models and testimonials inspected.

The invention was honourably mentioned by the International Jury at the French Exhibition of 1855; and has been favourably noticed in the *Revue de June and July, 1855*, and the *Mining Journal* of 8th December, 1855. Manufacturers treated with on the most liberal terms. Communications by letter post paid.

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

169

</